SOIL SURVEY OF

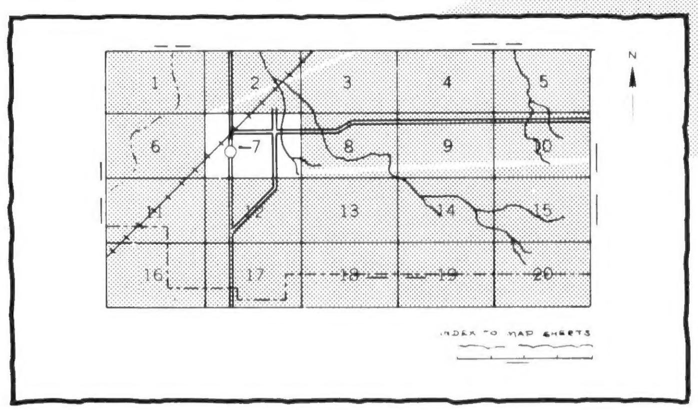
Iberville Parish, Louisiana

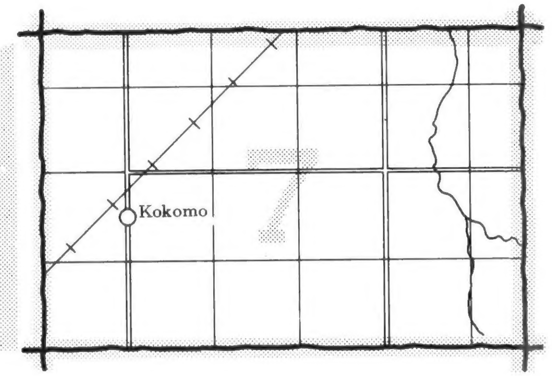
United States Department of Agriculture
Soil Conservation Service

In cooperation with the
Louisiana Agricultural Experiment Station

HOW TO USE THIS SOIL SURVEY

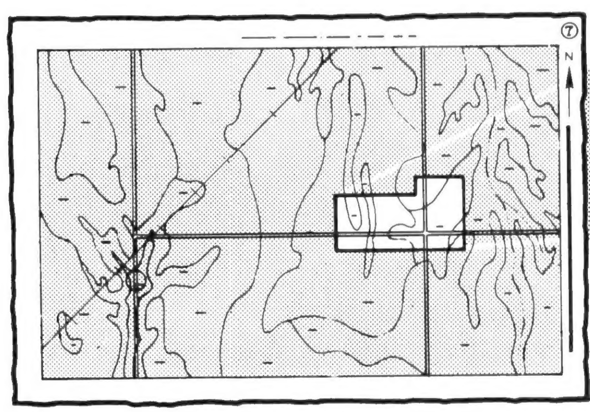
1. Locate your area of interest on the "Index to Map Sheets" (the last page of this publication).

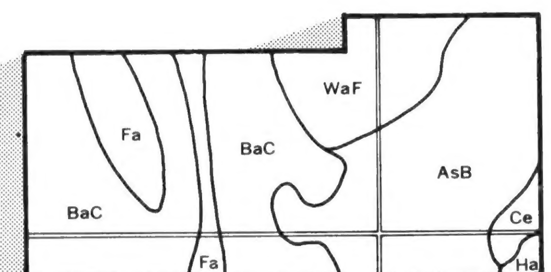




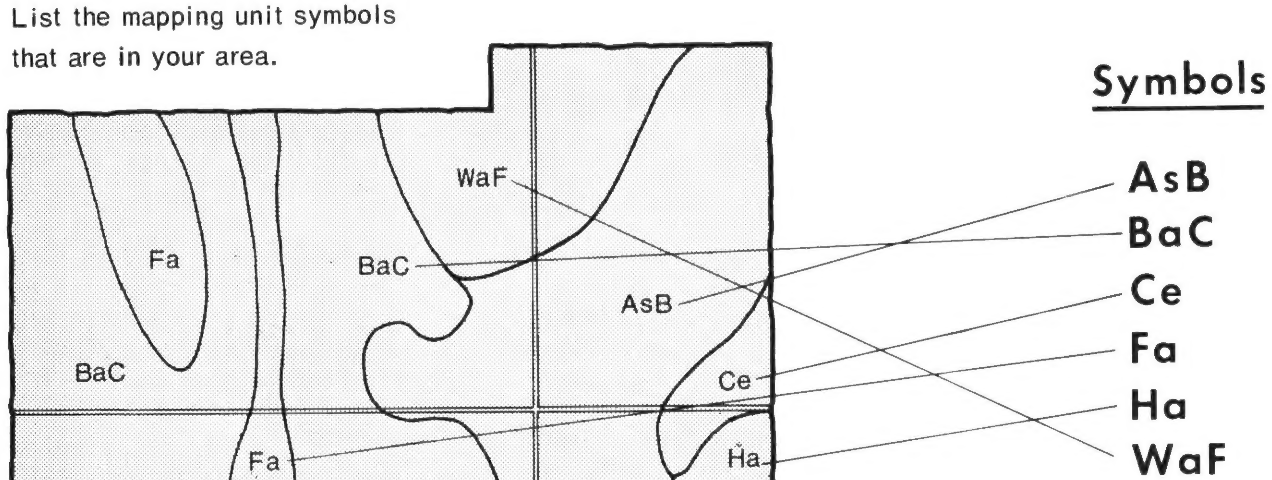
2. Note the number of the map sheet and turn to that sheet.

3. Locate your area of interest on the map sheet.

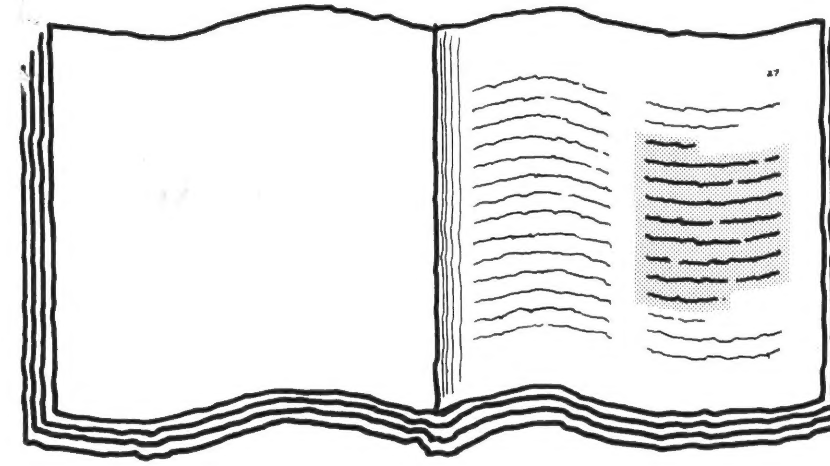


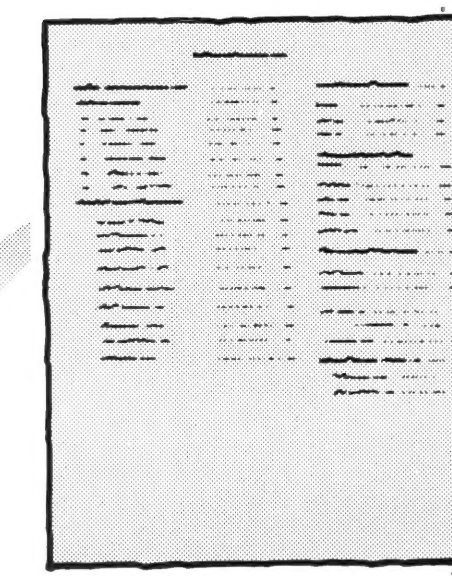


4. List the mapping unit symbols that are in your area.

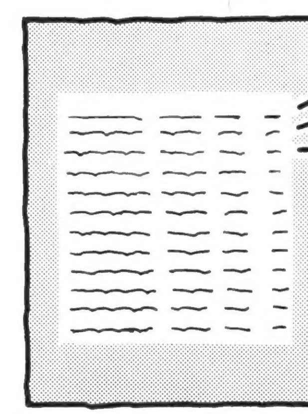


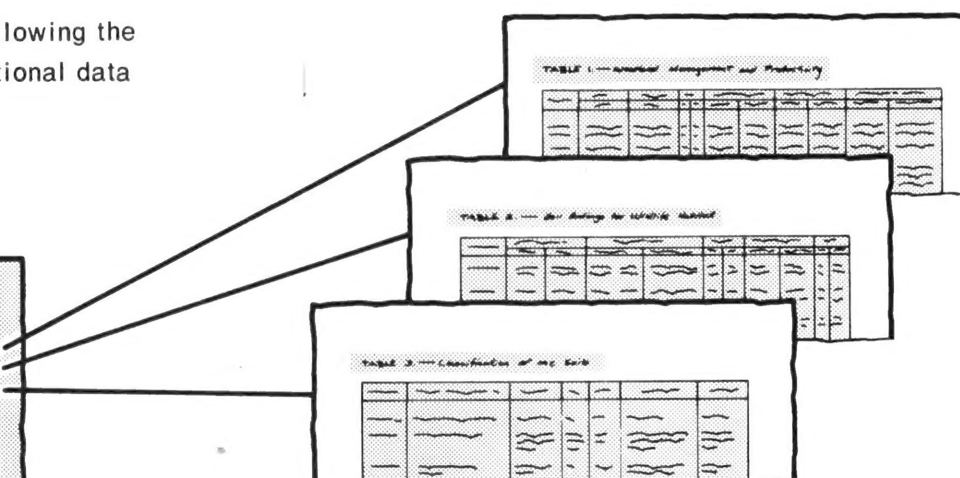
5. Turn to "Contents" or "Index to Soil Mapping Units" which lists the name of each mapping unit and the page where that mapping unit is described.





6. See "Summary of Tables" (following the Contents) for location of additional data on a specific soil use.





7. Consult "Contents" for parts of the publication that will meet your specific needs. This survey contains useful information for farmers or ranchers, foresters or agronomists; for planners, community decision makers, engineers, developers, builders, or homebuyers; for conservationists, recreationists, teachers, or students; for specialists in wildlife management, waste disposal, or pollution control.

Issued June 1977

This is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and agencies of the States, usually the Agricultural Experiment Stations. In some surveys, other Federal and local agencies also contribute. The Soil Conservation Service has leadership for the Federal part of the National Cooperative Soil Survey. In line with Department of Agriculture policies, benefits of this program are available to all, regardless of race, color, national origin, sex, religion, marital status, or age.

Major fieldwork for this soil survey was completed in the period 1971-74. Soil names and descriptions were approved in 1974. Unless otherwise indicated, statements in the publication refer to conditions in the survey area in 1975. This survey was made cooperatively by the Soil Conservation Service and the Louisiana Agricultural Experiment Station. It is part of the technical assistance furnished to the Lower Delta and New River Soil and Water Conservation Districts.

Soil maps in this survey may be copied without permission, but any enlargement of these maps could cause misunderstanding of the detail of mapping and result in erroneous interpretations. Enlarged maps do not show small areas of contrasting soils that could have been shown at a larger mapping scale.

COVER: Young sugarcane on Commerce silt loam.

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Summary of Tables

Foreword

The Soil Survey of Iberville Parish contains much information useful in any land-planning program. Of prime importance are the predictions of soil behavior for selected land uses. Also highlighted are limitations or hazards to land uses that are inherent in the soil, improvements needed to overcome these limitations, and the impact that selected land uses will have on the environment.

This soil survey has been prepared for many different users. Farmers, ranchers, foresters, and agronomists can use it to determine the potential of the soil and the management practices required for food and fiber production. Planners, community officials, engineers, developers, builders, and homebuyers can use it to plan land use, select sites for construction, develop soil resources, or identify any special practices that may be needed to insure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the soil survey to help them understand, protect, and enhance the environment.

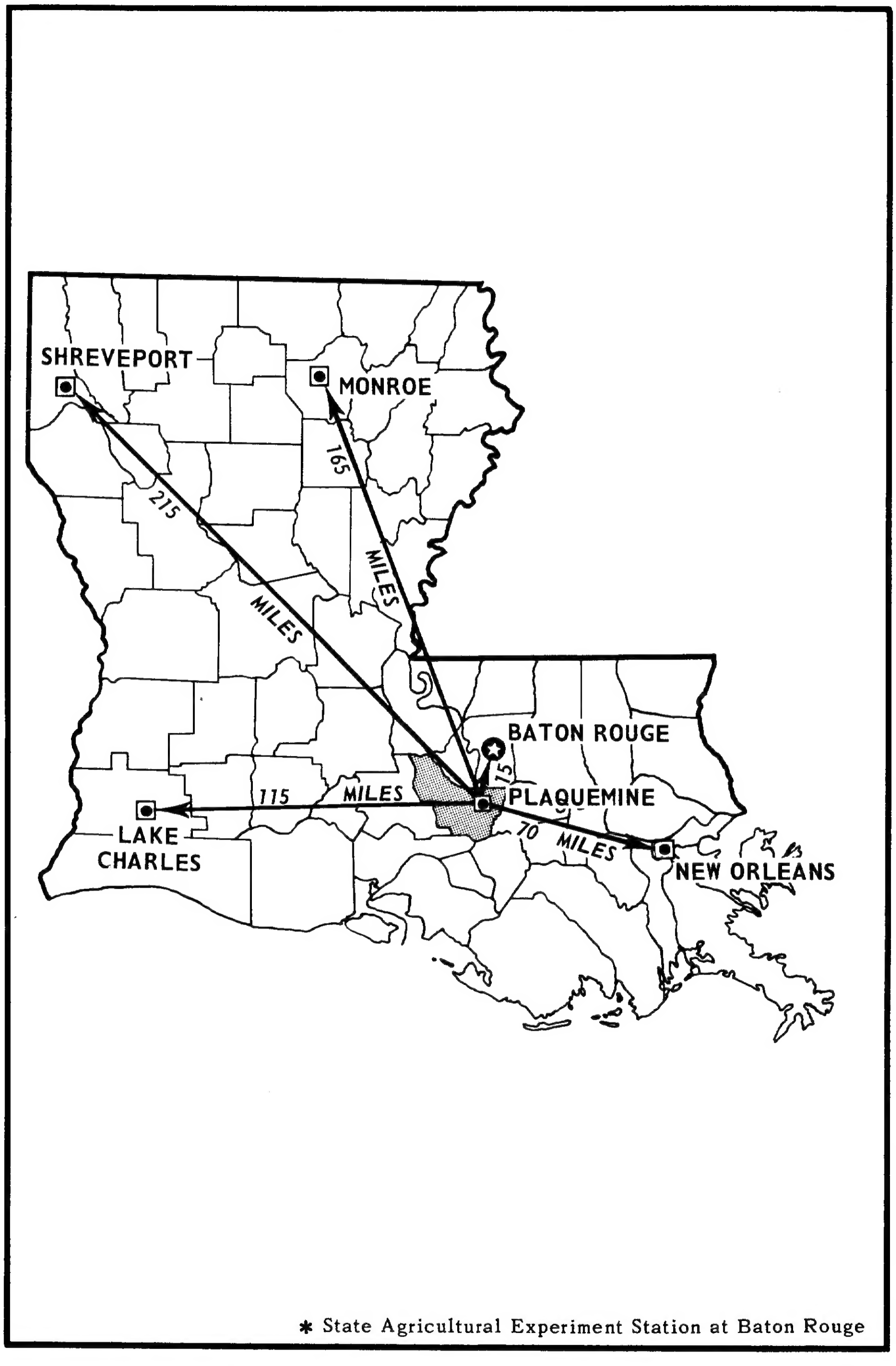
Many people assume that soils are all more or less alike. They are unaware that great differences in soil properties can occur even within short distances. Soils may be seasonally wet or subject to flooding. They may be too unstable to be used as a foundation for buildings or roads. Very clayey or wet soils are poorly suited to septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map; the location of each kind of soil is shown on detailed soil maps. Each kind of soil in the survey area is described, and much information is given about each soil for specific uses. Additional information or assistance in using this publication can be obtained from the local office of the Soil Conservation Service or the Cooperative Extension Service.

We believe that this soil survey can help bring us a better environment and a better life. Its widespread use can greatly assist us in the conservation, development, and productive use of our soil, water, and other resources.

Alton Mangum

State Conservationist
Soil Conservation Service



Location of Iberville Parish in Louisiana.

SOIL SURVEY OF IBERVILLE PARISH, LOUISIANA

By Bradley E. Spicer, S. Dayton Matthews, Ray E. Dance, Kent R. Milton, and William H. Boyd, Soil Conservation Service

United States Department of Agriculture, Soil Conservation Service, in cooperation with the Louisiana Agricultural Experiment Station

IBERVILLE PARISH is in the western part of the southeastern portion of the State (see facing page). It is about 5 miles south of Baton Rouge. Elevations range from 25 feet above sea level on the Mississippi River natural levees in the eastern part of the parish to nearby sea level in the Atchafalaya Basin Floodway in the southwestern part of the parish. The total area of the parish is 415,948 acres, of which 21,806 acres is water. Population of the parish in 1970 was 30,746.

Iberville Parish is entirely within the Mississippi River alluvial plain (*4*). The soils formed in sediments deposited by the Mississippi and Atchafalaya Rivers and their distributaries. There are two main physiographic surfaces—the natural levees and the backswamps. Loamy soils are dominant on the natural levees, and clayey soils are dominant on the backswamp. Most of the unflooded part of the parish is protected from flooding by the protection levee system along the Mississippi River and the East Atchafalaya Basin protection levee on the Atchafalaya Basin Floodway.

Most of the soils that are subject to flooding are in woodland. Nearly all of the soils not subject to flooding are in cropland. A small acreage is in pasture and in urban and industrial uses. The fertile, nearly level loamy soils on the natural levees of the Mississippi River and its distributaries are choice cropland. Sugarcane is the principal crop. This parish is situated in the heart of the sugarcane belt and has always been one of the largest sugar-producing parishes in the State.

The Mississippi River, the Morgan City alternate route of the Intracoastal Waterway, and other barge canals have a major impact on attracting industry to the parish. The Atchafalaya Basin Floodway is the center of recreation and fishing in the parish.

General Nature of the Parish

This section gives general information concerning the parish. It discusses settlement, natural resources, climate, and farming.

Agriculture

Iberville Parish is primarily an agricultural parish. The principal crop is sugarcane. Other crops, for example, cotton, corn, and rice, have been historically grown but have decreased significantly in acreage during the past 20 years. The acreage of soybeans has increased.

According to the U.S. Census of Agriculture for 1969, the number of farms in Iberville Parish decreased from 359 in 1964 to 286 in 1969. However, the average size increased from 343 to 427 acres. In both census years, about 30 percent of the parish was in farms. Total cropland in the parish increased from about 54,000 acres in 1964 to 73,000 in 1969. A large portion of this increase was because of land being cleared and planted to soybeans. Some land was cleared for pasture. Soybeans have now become an important crop. In 1969, 93 farms were raising 15,000 cattle in the parish.

The present trend is the loss of cropland to industrial and urban uses. The lost cropland acreage cannot be transferred elsewhere within Iberville Parish because a very large portion of the woodland in the parish has poor potential for cropland primarily because of the flooding hazard. See table 4.

Climate

By DR. ROBERT A. MULLER, Department of Geography and Anthropology, Louisiana State University.

Iberville Parish is part of a broad region of the Southeastern United States that has a humid subtropical climate. The parish is dominated by warm, moist, maritime tropical air from the nearby Gulf of Mexico. This maritime tropical air is displaced frequently during winter and spring by incursions of continental polar air from Canada, which usually persist no longer than 3 to 4 days. The incursions of cold air occur less frequently in autumn and only rarely in summer.

Usually there is a sharp contrast in the weather on either side of a frontal boundary separating polar and tropical air. Following passage of a cold front in winter,

the sky is typically covered by low clouds driven by strong, gusty northerly winds, temperatures fall into the 40's, and intermittent drizzle is common. Within 24 hours, the sky usually clears, winds abate, and temperatures at night fall low enough to produce frost or a freeze. Balmy conditions prevail in the tropical air to the south of the cold front. In January air temperatures reach the upper 60's to mid 70's, and billowy cumulus clouds carry moisture northward from the Gulf of Mexico.

Table 1 shows the annual mean daily maximum and minimum temperatures by months and the extreme temperatures that can be expected 2 years in 10. These temperature data are based on records kept from 1941 to 1970 at Carville. Temperatures near the top of a dense stand of crops or vegetation will be somewhat higher during sunny days and colder during clear, calm nights. Other small temperature variations in the parish are associated with slopes, air drainage, and bodies of water.

Monthly precipitation data for Carville are also given in table 1. Precipitation is usually associated with the passage of warm and cold fronts over the parish. Heavy showers of high intensity, usually lasting no more than an hour or two, occur within vigorous squall lines that precede cold fronts during winter and spring. Rains of 12- to 24-hour duration are uncommon. During summer, precipitation usually occurs as brief, heavy showers and thunderstorms between noon and early evening; each shower covers a very small area. The result is often a wide range of soil moisture conditions during summer and autumn. Heavy showers and general rains associated with tropical disturbances and hurricanes from the Gulf of Mexico occasionally occur during late summer and autumn.

The climate of Iberville Parish is outstanding for crops adapted to the subtropical climate and local drainage conditions. On the average there is ample sunshine, warm but not excessive temperatures, a long frost-free season, abundant precipitation with little significant snowfall, high atmospheric humidity, and infrequent damaging winds. Climatic hazards, which can be especially damaging, are mostly infrequent.

Table 2 shows probabilities of dates for the last low temperatures in spring and the first low temperatures in autumn at Carville (*3*). The table shows, for example, that the last 32 degree temperature occurs no later than February 14 every other year, on the average, but in about 1 year in 10 a freezing temperature can occur as late as March 16. During the 30-year period of record, extremely low temperatures damaging to subtropical crops and vegetation have occurred. At Carville the absolute minimum is 11 degrees. Bitter polar outbreaks are rare. Between 1941 and 1970 at nearby Baton Rouge, daily minimum temperatures fell to 16 degrees or below only 12 times, eight of which occurred during the winters of 1962 through 1966.

Rainstorms, which produce local flooding and excessive soil moisture conditions, occur occasionally. At nearby Baton Rouge, the maximum daily rainfall of record is almost 12 inches, and a daily rainfall of 5 inches or more occurs about once in 5 years. These rainfalls often occur along stationary fronts in winter and spring or in association with a tropical disturbance in fall. Despite the average high rainfall, monthly and seasonal variations of soil precipitation are great enough to result in short-term droughts and wet spells, which affect agricultural operations and crop yields. The water budget is a useful tool to indicate relationships between climate, land use, and agriculture. Figure 1 represents some of the water-budget components that were calculated monthly from data recorded at Ryan Airport in Baton Rouge, about 20 miles northeast of the center of Iberville Parish. The data for Baton Rouge are representative of water-budget components in Iberville Parish.

Potential evapotranspiration (PE), represented by the upper continuous curve is defined as the maximum amount of evapotranspiration which would take place with a continuous vegetation cover and no shortage of soil moisture. Monthly PE depends on the amount of energy that is supplied to the interface, particularly solar radiation. The Thornthwaite system utilized in this analysis bases the estimates on air temperature and day length. The seasonal regime of PE is low in winter and high in summer, with relatively little variation from one year to the next.

Actual evapotranspiration (AE), based on rainfall and soil moisture storage during a particular month, is an index of water use and crop production. Monthly AE cannot be greater than monthly PE, but when AE is less than PE, the difference is the moisture deficit (D), which is an index of water shortage or irrigation needed for maximum crop production. The calculations assume that a 6-inch moisture storage capacity is available to vegetation within the rooting zone; therefore, the deficits would be greater for shallow-rooted young plants and smaller for deeper rooted plants and for plants grown in poorly drained soils in backswamp areas.

Moisture surplus (S) represents precipitation not utilized for evapotranspiration or soil moisture recharge. This surplus becomes either surface runoff or ground-water recharge. The surplus is strongly seasonal. It is highest in winter and spring and occurs only occasionally in summer and fall. In addition, very large monthly variations are evident. Figure 1 (*6*) also illustrates the tendency of wetter or drier months, seasons, or years to cluster. The variability and clustering have considerable impact on agricultural activities; for example, large moisture surpluses during 1961 were followed by large deficits during 1962 and the first half of 1963.

Figure 2 shows monthly deficits and surpluses, summed on a seasonal basis, for the period 1941 through 1970 at Carville. Surpluses can be expected each winter and spring, occasionally in fall, but only rarely in summer. Deficits, on the other hand, should be expected each summer and fall, but only occasionally in spring. Figure 2 illustrates the variability by seasons through the years and the tendency for clustering. For example, there were

smaller than average winter surpluses of moisture during the late 40's, 50's, and 60's; large spring surpluses during the late 40's; and large summer deficits during much of the 40's. Data from figure 2 are reorganized in table 3 to show the probability of monthly deficits or surpluses that are equal to or greater than selected amounts. Random variation of deficits and surpluses over the decades was assumed.

Extremely severe weather conditions are associated with thunderstorms, squall lines, and hurricanes, but the frequency of serious damage at any one location within the parish is very low. Hail and tornadoes occur infrequently during severe thunderstorms. Tropical storms and hurricanes are likely to affect the parish in about 3 years in 10. Late summer and autumn storms usually bring only cloudy, windy, rainy weather to the parish. A severe hurricane causing widespread damage will probably reoccur only once in 2 or 3 decades.

The Atchafalaya Basin Floodway

The Atchafalaya Basin Floodway is the area between the East Atchafalaya Basin Protection Levee and the West Atchafalaya Basin Protection Levee, and it includes the Atchafalaya River. The floodway is part of a complex flood control system operated by the U.S. Corps of Engineers to divert excess water from the Mississippi River when it is at a critical flood stage. Since 1963, control locks have been regulated to divert a small continuous flow of the Mississippi River water into the Atchafalaya River, even during nonflood stage periods. Floodway flow rights are owned by the Federal Government.

The western part of the parish, about 120,000 acres, is in the floodway. Most of this area is subject to flooding. Some parts of the floodway are subject to deep flooding, scouring, and deposition.

The soils in the floodway have rather poor potential for urban and cropland uses. See table 4. The floodway is the center of recreation, commercial, and private fishing, especially for crawfish, in the parish. Access to the area is available by public boat launches on the East Atchafalaya Basin Protection Levee. A network of canals and natural streams dissects the floodway.

Transportation

There is a network of roads in the parish, mostly hard-surfaced State highways. They provide important connections between the developed areas of the parish and the industrial and commercial centers to the north and east. Interstate Highway-10 crosses the parish in the vicinity of Grosse Tete.

The parish is served by two major railroads, which parallel the Mississippi River.

Iberville Parish has two major water transportation routes—the Mississippi River and the Morgan City Alternate Route of the Intracoastal Waterway. The Mississippi River provides Iberville Parish with many miles of accessible waterfront in the northeastern part of the parish. The Morgan City Alternate Route of the Intracoastal Waterway runs in a north-south direction through the middle of the parish. These two waterways allow ships and barges to reach Baton Rouge, one of the world's largest inland ports. In addition to the Mississippi River and the Intracoastal Waterway-Port Allen-Morgan City Alternate Route, there are several natural waterways, which serve recreational, lumber, and fishing industries. A few of these natural waterways are Bayou Maringouin, Bayou Grosse Tete, Grand River, and Bayou Plaquemine.

Minerals

Iberville Parish had 17 active producing oil and gas fields in 1964. These produced 6,582,720 barrels of crude oil and 15,801,089 million cubic feet of natural gas in 1962.

There are four salt domes in the parish—White Castle, Choctaw, Bayou Blue, and Bayou des Glaises. The salt from the only salt producing dome in the parish, Choctaw Dome, is recovered in the form of brine and is conveyed to Baton Rouge by means of a pipeline. The liquid is used in the manufacture of sodium carbonate and liquid chlorine. This dome produced 1,186,239 long tons from 10 wells in 1963.

Industry

Industry is expanding in some parts of Iberville Parish. A greater Baton Rouge industrial area is expanding southward into Iberville Parish. The river frontage in Iberville Parish is a critical locational component for industrial sites because of the favorable use characteristics of the soil, the elevation above sea level, and the proximity of the Mississippi River for fresh water and transportation.

In 1968, the total industrial acreage, with optional sites included, was over 15,000 acres. Petrochemical concerns utilized more than 8,500 acres; about 900 acres was used for wood products and lumber purposes. Only 60 acres was utilized by food processing plants.

History and Development

Iberville Parish was named for Count Pierre LeMoyne d'Iberville, who explored the territory on his first trip up the Mississippi River in 1699. The District of Iberville became one of the original twelve counties into which the Territory of Orleans was divided by the Legislative Council in 1804, just one year after the Louisiana Territory was acquired by the United States. In 1807, Iberville was listed as one of the 19 counties or parishes into which the territory was divided. Point Pleasant became the seat of government in 1807 and remained so until 1835, when the capitol was moved to Plaquemine. Boundaries were defined and fixed with East Baton Rouge, Ascension, West Baton Rouge, Pointe Coupee, Assumption, and St.

Martin over a period from 1807 to 1847. A controversy with St. Martin over certain land tracts was not settled until 1947 when the Supreme Court ruled in favor of Iberville.

The development of the parish has been steady and varied. In 1896, assessment records showed that only about 34,000 acres was under cultivation, but with the building of levees, the opening of spillways, and the drainage of swampland, many more acres have been made available for cropland and other uses. The vast cypress swamps have been mostly cut over, but many other species of trees are still plentiful. The discovery of oil and gas and the construction of waterways have facilitated industrial development.

Water Resources

Surface water—Iberville Parish has about 21,806 acres of surface water. This is considered permanent water, but during the winter and spring many more thousands of acres of the parish are flooded primarily in the Atchafalaya Basin Floodway area.

Ground water—Moderate to large quantities of fresh, hard water is available to depths of 200 to 450 feet in most of the parish. In the vicinity of Rosedale, Grosse Tete, and Maringouin, fresh, very soft water is obtained from wells tapping sands between 1,000 and 2,500 feet. In the St. Gabriel oilfield and in some oilfields around Bayou Sorrel, there are areas in which no fresh water occurs (*5*).

Water levels in wells range from about 13 feet above to 22 feet below the land surface in most of the parish. Pumping in the parish has had no significant effect on water levels in wells, ranging from 25-foot fluctuations in shallow wells near the river to several feet in wells farther back from the river. Water levels in the deep wells in the northwestern part of the parish range from 30 to 65 feet above the land surface. Several wells in the parish yield 2,000 to 3,000 gallons per minute, and higher yields are possible.

The chloride content of water from wells near the Mississippi River ranges from about 5 to 20 parts per million. The chloride content of water from wells several miles back from the river southwest of White Castle ranges from about 100 to 180 parts per million. Iron content is a problem in some wells near the Mississippi River. Water from deep wells in the vicinity of Maringouin is very fresh and soft, with low iron content.

How This Survey Was Made

Soil scientists made this survey to learn what kinds of soil are in the survey area, where they are, and how they can be used. The soil scientists went into the area knowing they likely would locate many soils they already knew something about and perhaps identify some they had never seen before. They observed the steepness, length, and shape of slopes; the size of streams and the general pattern of drainage; the kinds of native plants or crops; and many facts about the soils. They dug many holes to expose soil profiles. A profile is the sequence of natural layers, or horizons, in a soil; it extends from the surface down into the parent material, which has been changed very little by leaching or by the action of plant roots.

The soil scientists recorded the characteristics of the profiles they studied, and they compared those profiles with others in counties nearby and in places more distant. Thus, through correlation, they classified and named the soils according to nationwide, uniform procedures.

After a guide for classifying and naming the soils was worked out, the soil scientists drew the boundaries of the individual soils on aerial photographs. These photographs show woodlands, buildings, field borders, roads, and other details that help in drawing boundaries accurately. The soil map at the back of this publication was prepared from aerial photographs.

The areas shown on a soil map are called soil mapping units. Some mapping units are made up of one kind of soil, others are made up of two or more kinds of soil, and a few have little or no soil material at all. Mapping units are discussed in the section "Soil Maps for Detailed Planning."

While a soil survey is in progress, samples of soils are taken as needed for laboratory measurements and for engineering tests. The soils are field tested, and their interpretations are modified as necessary during the course of the survey. New interpretations are added to meet local needs, mainly through field observations of different kinds of soil in different uses under different levels of management. Also, data are assembled from other sources, such as test results, records, field experience, and information available from state and local specialists. For example, data on crop yields under defined practices are assembled from farm records and from field or plot experiments on the same kinds of soil.

But only part of a soil survey is done when the soils have been named, described, interpreted, and delineated on aerial photographs and when the laboratory data and other data have been assembled. The mass of detailed information then needs to be organized so that it is readily useful to different groups of users, among them farmers, managers of rangeland and woodland, engineers, planners, developers and builders, homebuyers, and those seeking recreation.

General Soil Map for Broad Land Use Planning

The general soil map at the back of this publication shows, in color, the soil units for broad land use planning described in this survey. Each soil unit is a unique natural landscape that has a distinct pattern of soils and of relief and drainage features. A unit typically consists of one or more soils of major extent and some soils of minor extent. It is named for the major soils. The kinds of soil in one

unit can occur in other soil units, but in a different pattern.

The map provides a broad perspective of the soils and landscapes in the survey area. It provides a basis for comparing the potential of large areas for general kinds of land use. Areas that are generally suitable for certain kinds of farming or other land uses can be identified on the map. Likewise, areas of soils having properties that are distinctly unfavorable for certain land uses can be located.

Because of its small scale, the map does not show the kind of soil at a specific site. Thus, it is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure; the kinds of soils in any one soil unit ordinarily differ from place to place in slope, depth, stoniness, drainage, or other characteristics that affect their management.

Soils that are seldom to never flooded; outside the Atchafalaya Basin Floodway

This group of soil associations consists of loamy and clayey soils on the natural levees of the Mississippi River and its distributaries. Protection levee systems protect this group of soil associations from flooding by the Mississippi and Atchafalaya Rivers. Most of the acreage is in cropland. Sugarcane is the principal crop. There are two associations. About 46 percent of the parish is in the group.

1. Commerce Association

Nearly level, somewhat poorly drained loamy soils

This soil association occurs throughout the eastern half of the parish at the higher elevation on the natural levees of the Mississippi River and its distributaries.

This association makes up about 23 percent of the parish. It is about 60 percent Commerce soils and 40 percent minor soils. The Commerce soils are loamy throughout and have a seasonal high water table.

The minor soils in this association are the somewhat poorly drained Convent and Vacherie soils and the poorly drained Sharkey and Tunica soils. Most areas of the Convent soils are between the Mississippi River and its levees and are subject to frequent flooding.

This association is used mainly for cropland. Sugarcane and soybeans are the principal crops. Few natural drainageways exist. Surface drainage systems have been installed on most of the acreage. Wetness is the main limitation for most uses.

This association has excellent potential for cropland. The loamy texture, the high natural fertility, and the nearly level slopes make the soils of this association the choice cropland of the parish. To achieve maximum yield, a surface drainage system is generally required. This association has fair potential for urban use if soil wetness is overcome. Its excellent potential for woodland and good potential for wildlife habitat are overshadowed by its value for cropland and urban use.

2. Sharkey Association

Level, poorly drained clayey soils

This soil association occurs throughout the eastern two thirds of the parish at the moderately low and intermediate elevations on the natural levees of the Mississippi River and its distributaries.

This association makes up about 24 percent of the parish. It is about 90 percent Sharkey soils and 10 percent minor soils. The Sharkey soils are mostly clayey throughout and have a seasonal high water table.

The minor soils in this association are the poorly drained Tunica and the somewhat poorly drained Commerce soils.

This association is used mainly for cropland and pasture. Sugarcane and soybeans are the principal crops. Few natural drainageways exist. Surface drainage systems have been installed on most of the acreage. Soil wetness is a limitation for most uses. Low strength and high shrink-swell potential are limitations if the soils are used as foundation or as construction material.

This association has good potential for cropland, but the soils are difficult to work and wetness has to be overcome. A surface drainage system is required. The potential for urban use is poor. Wetness, high shrink-swell potential, and low strength are somewhat difficult and costly to overcome. The good potential for woodland and wildlife habitat is overshadowed by the value for cropland.

Soils that are frequently flooded; outside the Atchafalaya Basin Floodway

This group of soil associations consists of loamy and clayey soils that are subject to frequent flooding. They occupy the low areas between the higher parts of the natural levees of the Mississipppi River and its distributaries. Protection levee systems protect this group of soil associations from flooding by the Mississippi and Atchafalaya Rivers, but the soils are flooded by runoff from the higher local areas. Most of the acreage is used for woodland, wildlife habitat, and recreation. There are two soil associations. About 24 percent of the parish is in this group.

3. Sharkey-Fausse Association

Level, poorly drained and very poorly drained, frequently flooded clayey soils

This soil association occurs in low areas between higher parts of the natural levees, mainly in the central part of the parish mostly west of the Mississippi River, and is subject to flooding one or more times each year during the months of December through July. A small area occurs east of the river in the vicinity of Spanish Lake.

This association makes up about 22 percent of the parish. It is about 65 percent Sharkey soils, 25 percent Fausse soils, and 10 percent minor soils.

The Sharkey soils are slightly higher in elevation than the Fausse soils. Sharkey soils are poorly drained, and the Fausse soils are very poorly drained. The Sharkey soils have a clay surface layer, and the Fausse soils have a mucky clay surface layer. Both kinds of soils have a seasonal high water table.

The minor soils in this association are the very poorly drained Barbary soils and the poorly drained Tunica soils.

This association is used mainly for woodland, wildlife habitat, and recreation. Large tracts are used by hunting clubs. Some tracts are used for commercial crawfishing. Flooding and soil wetness are the principal limitations to use for farming and for most other purposes.

This association has very poor potential for cropland and urban use. Flooding and wetness are very difficult to overcome.

This association has fair potential for woodland and good potential for wetland wildlife.

4. Barbary Association

Level, very poorly drained, nearly continuously flooded clayey soils

This soil association occurs in the low backswamp at a low elevation in the southern part of the parish in the vicinity of Lake Natchez and is almost continuously flooded.

This association makes up about 1 percent of the parish. It is about 70 percent Barbary soils and 30 percent minor soils.

The Barbary soils have a muck surface layer and are soft and compressible. They are almost continuously flooded in most years during the months of December through June.

The minor soils in this association are the poorly drained Sharkey soils and the very poorly drained Fausse soils.

This association is in woodland and is used mainly for wildlife habitat and recreation. Flooding and wetness are the main limitations to use for farming and for most other purposes.

This association has very poor potential for cropland and urban use. Flooding and wetness are very difficult to overcome.

This association has a fair potential for wetland wildlife and a poor potential for woodland.

Soils that are occasionally to frequently flooded; inside the Atchafalaya Basin Floodway

This group of soil associations consists of loamy and clayey soils that are subject to occasional to frequent flooding. They are a part of the Atchafalaya Basin Floodway, and some areas are subject to deep flooding by the Mississippi and Atchafalaya Rivers. Floodway flow rights are owned by the Federal Government. These soils are used for woodland, wildlife habitat, and recreation. There are four soil associations. About 30 percent of the parish is in this group.

5. Convent, Flooded Association

Level and gently undulating, somewhat poorly drained, occasionally flooded loamy soils

This soil association occurs at the highest elevations on the natural levees along distributary channels in the northwestern part of the Atchafalaya Basin Floodway and is subject to flooding about 3 years out of 5 during the months of December through June.

This association makes up about 2 percent of the parish. It is about 70 percent Convent soils and 30 percent minor soils. The Convent soils have a silt loam or very fine sandy loam surface layer and a seasonal high water table.

The minor soils in this association are the somewhat poorly drained Commerce soils and the poorly drained Sharkey soils.

This association is used mainly for woodland and wildlife habitat. Large tracts are used by hunting clubs. All of this association is part of the Atchafalaya Basin Floodway. Floodway flow rights are owned by the Federal Government. The occasional flooding, scouring, and deposition are the main limitations to use for farming and most other uses.

This association has good potential for woodland and wildlife habitat and poor potential for cropland and pasture because of flooding. Because of flooding, scouring, and deposition, the potential for urban use is very poor.

6. Sharkey, Flooded Association

Level, poorly drained, occasionally flooded clayey soils

This soil association occurs on intermediate positions on the natural levees of distributary channels in the northern part of the Atchafalaya Basin Floodway. It is subject to flooding about 4 years out of 5 during the months of December through June.

This association makes up about 4 percent of the parish. It is about 75 percent Sharkey soils and 25 percent minor soils.

The Sharkey soils have a clay surface layer and a high seasonal water table.

The minor soils in this asociation are the poorly drained Tunica, the very poorly drained Fausse, and the somewhat poorly drained Commerce and Convent soils.

This association is used mainly for woodland, wildlife, and recreation. Large tracts are used by hunting clubs. One large tract is cleared and used for cropland. All of this association is used as part of the Atchafalaya Basin Floodway (fig. 3). Floodway flow rights are owned by the Federal Government. The occasional flooding and soil wetness are the principal limitations to use for farming and for most other purposes.

This association has good potential for woodland and wetland wildlife habitat. The potential for cropland and

pasture is poor because of wetness and flooding. Because of flooding, the potential for urban use is very poor.

7. Convent-Fausse Association

Gently undulating and level, somewhat poorly drained and very poorly drained, frequently flooded loamy and clayey soils

This soil association is on natural levees and in low interlevee depressions along distributary channels throughout the Atchafalaya Basin Floodway and is subject to flooding, scouring, and deposition. Flooding generally occurs one or more times each year during the months of December through July.

This association makes up about 4 percent of the parish. It is about 55 percent Convent soils, 25 percent Fausse soils, and 20 percent minor soils.

The Convent soils are at the higher elevations on the natural levees. The Fausse soils are at the lower elevations in depressions between the natural levees. Convent soils are somewhat poorly drained, and the Fausse soils are very poorly drained. The Convent soils have a silt loam surface layer, and the Fausse soils have a clay surface layer. Both soils have a seasonal high water table.

The minor soils in this association are loamy soils that are coarser textured but are otherwise similar to and closely associated with the Convent soils and clayey soils that contain reddish clay layers but are otherwise similar to the Fausse soils.

This association is in woodland and is used mainly for wildlife habitat and recreation. Large tracts are used by hunting clubs. The area is also used for limited commercial crawfishing. All of this association is part of the Atchafalaya Basin Floodway. Floodway flow rights are owned by the Federal Government. Flooding, scouring, and deposition are the main limitations to use for farming and most other uses.

This association has good potential for native habitat of certain wildlife species and poor potential for woodland. Flooding and wetness are so severe and difficult to overcome that the potential for cropland, pasture, and urban use is very poor.

8. Fausse-Sharkey Association

Level, very poorly drained and poorly drained, frequently flooded clayey soils

This soil association is on very low natural levees of distributaries and in broad, swampy, interlevee depressions throughout most of the Atchafalaya Basin Floodway. It is generally subject to flooding one or more times each year during the months of December through July. Some of the low depressional areas are almost continuously flooded.

This association makes up about 20 percent of the parish. It is about 65 percent Fausse soils, 25 percent Sharkey soils, and 10 percent minor soils.

The Fausse soils are at slightly lower elevations than the Sharkey soils. Fausse soils are very poorly drained, and the Sharkey soils are poorly drained. The Fausse soils have a mucky clay or clay surface layer, and the Sharkey soils have a clay surface layer. Both kinds of soils have a high seasonal water table.

The minor soils in this association are the somewhat poorly drained Convent soils and the very poorly drained Barbary soils.

This association is mainly in woodland and is used for wildlife habitat and recreation. Large tracts are used for commercial crawfishing and by hunting clubs. All of this association is used as part of the Atchafalaya Basin Floodway. Floodway flow rights are owned by the Federal Government. Flooding and wetness are the principal limitations for most uses.

This association has good potential for wetland wildlife habitat and fair potential for woodland. Flooding and wetness are so severe and difficult to overcome that the potential for cropland and urban use is very poor.

Broad Land Use Considerations

The soil associations in the parish vary widely in their potential for major land uses, as indicated in table 4. For each land use, general rating of the potential of each soil association and its rank in relation to the other soil associations within the parish are indicated. Kinds of soil limitations are also indicated in general terms. The ratings and rankings of soil potential reflect the relative cost of practices needed to overcome soil limitations, and also the hazard of continuing soil related problems after such practices are installed. The ratings and rankings do not consider location in relation to existing transportation systems or other kinds of facilities. Kinds of land uses considered are cropland, woodland, and urbanland. Cultivated farm crops grown extensively are sugarcane and soybeans. Specialty crops include vegetables, fruits, and nursery crops grown on limited acreage and generally requiring intensive management. Woodland refers to land in hardwood trees. Urbanland includes residential, commercial, and industrial land uses.

The Commerce association and the Sharkey association generally are not subject to flooding and are the associations in the parish best suited for cropland. Surface drainage systems, however, generally have to be installed to remove excess surface water in order to achieve maximum crop production. The Convent, flooded and the Sharkey, flooded associations inside the Atchafalaya Basin Floodway can be cropped only during nonflood periods. This limits the crops that can be grown to such crops as soybeans and grain sorghum. Flooding precludes the use of the remaining associations in the parish for cropland, but many areas within these associations are suitable for cropland if the flooding is controlled.

All of the associations of the parish have fair to good potential for woodland except the Barbary association and the Fausse-Sharkey association. The permanently high

water table and the almost continuous flooding over much of these areas severely restrict their potential for woodland.

The Commerce association is the only association in the parish that can be considered favorable for urban development. Flooding hazard, wetness, and high shrink-swell potential are major soil limitations that greatly reduce the urban use potential of the other associations in the parish.

The Commerce association and the Sharkey association have potential for permanent type recreational facilities or parks. Most of the other areas have potential for more restricted recreational uses, such as nature trails and nature study areas.

There are many differences in suitability to various land uses among the soil associations in Iberville Parish. Soils information can be used as a guide in planning the orderly growth and development of the parish. It is especially helpful in determining which lands to allocate to each use.

Soil Maps for Detailed Planning

The kinds of soil (mapping units) shown on the detailed soil maps at the back of this publication are described in this section. The descriptions together with the soil maps can be useful in determining the potential of a soil and in managing it for food and fiber production; in planning land use and developing soil resources; and in enhancing, protecting, and preserving the environment. More information for each soil is given in the section "Use and Management of the Soils."

Preceding the name of each mapping unit is the symbol that identifies the unit on the detailed soil map. Each mapping unit description includes general facts about the soil and a brief description of the soil profile. In each description, the principal hazards and limitations are indicated and the management concerns and practices needed are discussed.

A soil mapping unit represents an area on the landscape and consists mostly of the soil or soils for which the unit is named. Most of the delineations shown on the detailed soil map at the back of this publication are phases of soil series.

Soils that have profiles that are almost alike make up a *soil series.* Except for allowable differences in texture of the surface layer or of the underlying substratum, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement in the profile. A soil series commonly is named for a town or geographic feature near the place where a soil of that series was first observed and mapped. All the soils in the United States having the same series name have essentially the same properties that affect their use and their response to management practices.

Soils of one series can differ in texture of the surface layer or in the underlying substratum and in slope, erosion, stoniness, salinity, wetness, or other characteristics that affect the use of the soils. On the basis of such differences, a soil series is divided into phases. The name of a *soil phase* commonly indicates a feature that affects use or management. For example, Sharkey silty clay loam is one of several phases within the Sharkey series.

Some mapping units are made up of two or more dominant kinds of soil. Two such kinds of mapping units are shown on the soil map of this survey area: an association and an undifferentiated group.

A *soil association* is made up of soils that are geographically associated and are shown as one unit on the map. A soil association has considerable regularity in geographic pattern and in the kinds of soil that make up the association. The extent of the soils can differ appreciably from one delineation to another; nevertheless, interpretations can be made for the expected uses of the soils. Barbary association is an example.

An *undifferentiated group* is made up of two or more soils that could be mapped individually but are mapped as one unit because there is little value in separating them. The pattern and proportion of the soils are not uniform. An area shown on the map has at least one of the dominant (named) soils or may have all of them. Sharkey and Fausse soils is an undifferentiated group in this survey area.

Most mapping units include small, scattered areas of soils other than those that appear in the name of the mapping unit. Some of these soils have properties that differ substantially from those of the dominant soil or soils and thus could significantly affect use and management of the mapping unit. The soils that are included in mapping are recognized in the description of each mapping unit. Some of the more unusual or strongly contrasting soils that are included are identified by a special symbol on the soil map.

The acreage and proportionate extent of each mapping unit are given in table 5, and additional information on properties, limitations, capabilities, and potentials for many soil uses are given for each kind of soil in other tables in this survey. (See "Summary of Tables.") Many of the terms used in describing soils are defined in the Glossary.

Soil Descriptions

BA—Barbary association. This mapping unit consists of level soils that formed in thin muck over clayey alluvium. These soils are continuously saturated and nearly continuously flooded. They are in several large areas in backswamps in the southern part of the parish. Elevations are less than 3 feet above sea level. These soils have a thin organic surface layer underlain by semifluid clayey layers that typically contain logs, woody fragments, and stumps. Slope gradients are less than 0.2 percent. The composition of this unit is more variable than that of many units in the parish but has been controlled well enough for making interpretations for the present and expected uses.

The Barbary soils make up about 70 percent of the association. Typically, the surface layer is overlain by a slightly acid, dark brown muck about 6 inches thick. The surface layer is a neutral, very dark gray, mucky semifluid clay about 6 inches thick. The next layer to a depth of 28 inches is a mildly alkaline, dark gray semifluid clay. Below this is a moderately alkaline, gray and dark gray semifluid clay.

Barbary soils are high in fertility. They are almost continuously flooded. Floodwaters exceed a depth of 5 feet during the months of December through July. During nonflood periods the water table fluctuates between the soil surface and 0.5 foot below the surface. These soils have high shrink-swell potential but generally never dry out enough to crack. Adequate moisture is available to plants throughout the year.

Fausse and Sharkey soils make up about 30 percent of the mapping unit. They are on low, narrow natural levees at slightly higher elevations than Barbary soils.

Most of this association is wooded. Trees that are common throughout the area include water tupelo, baldcypress, and black willow. A list of plants observed on these soils is given in table 13. This area is used primarily for wildlife habitat and recreation. The potential for cropland and pasture is very poor because of flooding. The potential for woodland is poor because of poor trafficability, wetness, and flooding. These soils provide natural habitat for many wildlife species.

The potential for urban use is very poor primarily because of flooding and the semifluid nature of the clayey layers. Capability subclass VIIw.

Cc—Commerce silt loam. This nearly level loamy soil is on the high parts of the natural levees of the Mississippi River and its distributaries. It formed in loamy alluvium. Individual areas are 15 to 500 acres in size. Slope gradients are less than 1 percent.

Typically, the surface layer is slightly acid and neutral dark grayish brown silt loam about 11 inches thick. The subsoil to a depth of 29 inches is neutral and mildly alkaline, grayish brown silty clay loam mottled in shades of brown. The underlying material is moderately alkaline, grayish brown silt loam with dark brown mottles.

Included with this soil in mapping are a few small areas of Convent and Vacherie soils. Also included are small areas of soils, mainly along Bayou Grosse Tete, Bayou Maringouin, Bayou Blue, and Bayou Manchac, that are acid to depths of about 24 inches. These soils have well developed profiles and slopes of 1 to 3 percent. The included soils make up about 15 percent of this mapping unit, but separate areas generally are less than 3 acres.

This soil is high in fertility. Water and air move somewhat slowly through the soil. Plant roots penetrate easily. Water runs off the surface at a slow to medium rate. The subsoil is wet for long periods during the winter and spring. The seasonal high water table fluctuates between depths of 1.5 and 2.5 feet during the months of December through April. The surface layer is wet for significant periods in the winter and spring. Adequate moisture is available to plants in most years.

Most of the acreage is in cropland. Sugarcane and soybeans are the main crops. A small acreage is in pasture, woodland, and homesites.

The potential for cropland and pasture is excellent. The nearly level slopes, high fertility, and loamy texture make this one of the choice soils for cropland in the parish. Suitable crops are sugarcane, soybeans, corn, small grain, and truck crops. Suitable pasture plants are common bermudagrass, improved bermudagrass, dallisgrass, Pensacola bahiagrass, tall fescue, ryegrass, johnsongrass, white clover, and southern wild winter peas.

This soil is friable and easy to keep in good tilth. Trafficpans develop when this soil is under cultivation but can be broken by chiseling or deep plowing. A surface drainage system is needed for the optimum production of most cultivated crops. Land smoothing or grading improves surface drainage and increases the efficiency of farm equipment. Proper management of crop residues will help maintain organic content and reduce soil losses by erosion. Most crops other than legumes respond well to nitrogen fertilizer. Lime or other fertilizers are not needed for some crops.

The potential for urban use is fair, but this soil is one of the best soils in the parish for this use. Wetness is the principal limitation for such uses as septic tank absorption fields, sanitary landfills, homesites, and local roads and streets. Low strength is a limitation for foundations or construction material. The excellent potential for woodland and certain kinds of wildlife habitat is overshadowed by the value for cropland, pasture, and urban uses. Capability subclass IIw.

Ce—Commerce silty clay loam. This nearly level loamy soil is on intermediate parts of the natural levees of the Mississippi River and its distributaries. It formed in loamy alluvium. Individual areas are 15 to 600 acres in size. Slope gradients are less than 1 percent.

Typically, the surface layer is slightly acid dark grayish brown silty clay loam about 5 inches thick. The next layer, extending to a depth of 9 inches, is neutral, dark gray silty clay loam with dark brown mottles. The subsoil, extending to a depth of 28 inches, is moderately alkaline, grayish brown silty clay loam with yellowish brown mottles. Below this is moderately alkaline, grayish brown silt loam mottled in shades of brown.

Included with this soil in mapping are a few small areas of Commerce silt loam and Sharkey silty clay loam. Also included, mainly on the lower positions on the natural levees of Bayou Grosse Tete, Bayou Maringouin, and Bayou Blue, are small areas of Tunica soils and soils that are acid to a depth of 24 inches and have well developed profiles. A few of the lower areas have inclusions of loamy soils that are gray or dark gray throughout. The included soils make up about 15 percent of this mapping unit, but separate areas generally are less than 3 acres.

The soil is high in fertility. Water and air move somewhat slowly through the soil. Plant roots penetrate with little difficulty. Water runs off the soil at a slow rate. The subsoil is wet for much of the winter and

spring. The seasonal high water table fluctuates between depths of 1.5 and 2.5 feet during the months of December through April. Water stands in depressions and in low areas for short periods after heavy rains. Adequate moisture is available to plants in most years.

Most areas of this soil are cropland. Sugarcane and soybeans are the main crops (fig. 4). A small acreage is in pasture, woodland, and homesites.

The potential for cropland and pasture is excellent. The nearly level slopes and high fertility make this soil very favorable for cultivated crops, but the silty clay loam surface layer is somewhat unfavorable for this use. Suitable crops are sugarcane, soybeans, small grains, corn, rice, and truck crops. Suitable pasture plants are common bermudagrass, improved bermudagrass, Pensacola bahiagrass, dallisgrass, ryegrass, johnsongrass, tall fescue, southern wild winter peas, and white clover.

Good tilth is somewhat difficult to maintain because of the silty clay loam surface layer. Wetness restricts the use of farm equipment. Drainage is needed to remove excess surface water for both cropland and pasture (fig. 5). Land grading or smoothing improves surface drainage and increases the efficiency of farm equipment. Proper management of crop residue helps maintain organic content, improve tilth, and reduce soil losses by erosion. Most crops other than legumes respond well to nitrogen fertilizer. Lime or other fertilizers are not needed for some crops.

The potential for urban use is fair. Wetness is the principal limitation for such uses as septic tank absorption fields, sanitary landfills, homesites, and local roads and streets. Low strength is a limitation for foundations and construction material. The soil has excellent potential for woodland, certain kinds of wildlife habitat, cropland, and urban use. Capability subclass IIw.

Cn—Convent silt loam. This nearly level loamy soil is on the highest parts of the natural levees of the Mississippi River and its distributaries. It formed in loamy alluvium. It occurs in tracts ranging from 15 to 200 acres in size. Slope gradients are less than 1 percent.

Typically, the surface layer is neutral dark grayish brown silt loam about 10 inches thick. The next layer, extending to a depth of 40 inches, is moderately alkaline, grayish brown silt loam mottled in shades of brown. Below this is moderately alkaline, grayish brown silt loam with prominent bedding planes.

Included with this soil in mapping are a few small areas of Vacherie and Commerce silt loam that occur at similar or slightly lower elevations. The included soils make up about 20 percent of this mapping unit, but separate areas generally are less than 2 acres.

This soil is high in fertility. Water and air move moderately fast through the soil. Plant roots penetrate easily. Water runs off the surface at a slow to medium rate. The seasonal high water table fluctuates between depths of 1.5 to 4.0 feet during the months of December through April. This soil is wet in the lower part of the profile for significant periods in the winter and spring. Adequate moisture is available to plants in most years.

Most of the acreage is in cropland. Sugarcane and soybeans are the principal crops.

The potential for cropland and pasture is excellent. The high fertility, the nearly level slopes, and the loamy texture make this one of the choice soils for cropland in the parish. Suitable crops are corn, truck crops, small grains, sugarcane, and soybeans. Suitable pasture plants are common bermudagrass, improved bermudagrass, dallisgrass, Pensacola bahiagrass, ryegrass, johnsongrass, and white clover.

This soil is friable and easy to keep in good tilth. In some areas damage to young row crops occurs when heavy rains wash the surface soil away from the roots. Trafficpans develop easily when this soil is under cultivation but can be broken by chiseling or deep plowing. A drainage system may be needed in some areas to remove excess surface water. Land smoothing or grading will improve surface drainage and increase the efficiency of farm equipment. Proper management of crop residues will help maintain organic content, improve tilth, and reduce soil losses by erosion. Most crops respond well to nitrogen fertilizer. Lime and other fertilizers generally are not needed.

The potential for urban use is only fair, but this soil is one of the best soils in this parish for this use. Wetness is the main limitation when this soil is used for septic tank absorption fields, sanitary landfills, homesites, and local roads and streets. Low strength is a limitation for foundations or construction material.

The excellent potential for woodland and certain kinds of wildlife habitat is overshadowed by the value for cropland and urban use. Capability subclass IIw.

CO—Convent soils, occasionally flooded. This mapping unit consists of nearly level to gently undulating loamy soils in the Atchafalaya Basin Floodway. These soils occur at some of the highest elevations in the floodway on the natural levees of Alabama Bayou, Bayou des Glaises, Whiskey Bayou Pilot Channel, and other streams. They formed in loamy alluvium. They are subject to flooding, scouring, and deposition. Floodway flow rights are owned by the Federal Government. Elevations range from 15 to 30 feet above sea level. Slope gradients range from 0 to 3 percent. These soils occur in several large tracts ranging from about 300 to over 2,000 acres in size. The soils in this unit are broadly defined, but they were examined closely enough to make soil interpretations for present and expected uses. A delineation may contain only silt loam, only very fine sandy loam, or both. The potential of scouring and deposition by floodwater makes the composition of this unit subject to change.

A typical area of this mapping unit is about 70 percent Convent soils. Minor soils make up about 30 percent. This includes a large area of Commerce and similar soils that are at intermediate elevations along the Alabama Bayou. Also included are loamy soils that are similar to the Convent soils but are coarser textured and contain reddish gray to brown layers up to 18 inches thick. A number of mounds of loamy and clayey spoil materials are included

along the Whiskey Bayou Pilot Channel. Some small areas of Convent soils at lower elevations are frequently flooded. Separate areas of included soils generally are less than 50 acres in size.

Typically, the surface layer of the Convent soils is a neutral dark grayish brown silt loam about 4 inches thick. The next layer to a depth of 10 inches is a mildly alkaline grayish brown silt loam with dark brown mottles. The next layer to a depth of 40 inches is a mildly alkaline and moderately alkaline, grayish brown silt loam mottled with shades of brown. Below this is moderately alkaline, grayish brown silt loam with prominent bedding planes.

These soils are high in fertility. Plant roots penetrate easily, and water and air move moderately fast through the soil. Water runs off the surface at a slow to medium rate. Unless the soil is flooded, the seasonal high water table fluctuates between depths of 1.5 to 4.0 feet during the months of December through April. This soil is wet in the lower part of the profile for significant periods in the winter and spring. Flooding generally occurs in about 3 years out of 5 during the months of December through June. Depth of floodwaters may exceed 5 feet at lower elevations. Adequate moisture is available to plants in most years.

Most of the acreage is in woodland. Trees that are commonly growing on the Convent soils include American sycamore, black willow, common persimmon, eastern cottonwood, sugarberry, sweetgum, and water oak. A list of native plants observed on these soils is given in table 13. These soils are used primarily for wildlife habitat and recreation. There are a few large areas in cropland and pasture. Also, a small acreage is in oil and gas fields.

The potential for cropland and pasture is poor because of flooding, scouring, and deposition. Suitable crops are soybeans and grain sorghum. Suitable pasture plants are common bermudagrass and Pensacola bahiagrass. Most of this area has a good potential for woodland. These soils provide good natural habitat and haven for many wildlife species.

The potential for urban use is very poor. Flooding, scouring, and deposition by rapidly moving floodwaters are the major limitations. Low strength is a limitation for foundations and construction material. Capability subclass IVw.

CS—Convent soils, frequently flooded. This mapping unit consists of level to gently undulating loamy soils on the natural levees of the Mississippi River between the river and the protection levee. They formed in loamy alluvium. They are subject to flooding, scouring, and deposition (fig. 6). This unit consists of two narrow continuous tracts about 14 miles long on both sides of the river. Slope gradients range from 0 to 3 percent.

The soils in this unit are broadly defined, but they were examined closely enough to make soil interpretations for the present and expected uses. A delineation can contain only a silt loam surface layer, only a very fine sandy loam surface layer, or both. The composition of this unit is subject to change as floodwater scours or deposits new sediments. A typical area of this mapping unit is about 65 percent Convent soils.

Minor soils make up about 35 percent of this mapping unit. This includes areas of Sharkey and Tunica soils in low depressions and swales and Commerce soils at intermediate positions.

Typically, the surface layer of the Convent soils is mildly alkaline, dark grayish brown silt loam about 3 inches thick. The next layer, extending to a depth of 10 inches, is mildly alkaline, dark brown silt loam. The next layer to a depth of 40 inches is a mildly alkaline and moderately alkaline, grayish brown very fine sandy loam with dark brown mottles. Below this is moderately alkaline, grayish brown very fine sandy loam with strong bedding planes.

These soils are high in fertility. Plant roots penetrate easily, and water and air move moderately fast through the soil. Water runs off the surface at a medium rate. Flooding generally occurs during the months of December through July. Depth of floodwaters may exceed 20 feet at low elevations.

Most of the acreage is in woodland and pasture and is used primarily for grazing, wildlife habitat, and recreation. Many small areas are used as a source of borrow material for construction purposes. Some acreage has been developed for docking facilities for nearby industrial plants.

The potential for cropland is very poor because of flooding, scouring, and deposition. Most of the area, however, is suited to grazing when not flooded. Suitable pasture plants are common bermudagrass, Pensacola bahiagrass, and dallisgrass. White clover and southern wild winter peas can be grown on the higher areas that are the least severely flooded. In most areas during flooding cattle can take refuge on the adjacent levee. Large areas of this unit have good potential for woodland. These soils provide good natural habitat for many wildlife species. The potential for urban use is very poor. Frequent flooding, scouring, and depositions by rapidly moving floodwater are the major limitations. Capability subclass Vw.

CV—Convent and Fausse soils. This mapping unit consists of nearly level loamy and level clayey soils in the Atchafalaya Basin Floodway that are subject to flooding. They are on natural levees and in low depressions. Floodway flow rights are owned by the Federal Government. Slope gradients range from 0 to 3 percent. These soils occur mainly in tracts of more than a thousand acres each. Convent soils formed in loamy alluvium, and Fausse soils formed in clayey alluvium. These soils occur at elevations less than 15 feet above sea level.

The Convent and Fausse soils in this mapping unit are closely associated, but the pattern is irregular. The soils in this unit are broadly defined, but they were examined closely enough to make soil interpretations for the present and expected uses. Individual areas of both soils are large enough to map separately, but because of present and predicted uses they were not separated in

mapping. Most mapped areas contain both soils, but the proportions of the Convent and the Fausse soils vary from place to place.

The composition of this unit is subject to change as floodwaters deposit new sediments. The present trend is for the proportion of Convent soils to increase and the proportion of the Fausse soils to decrease.

A typical area of this mapping unit is about 55 percent Convent soils and 25 percent Fausse soils. Minor soils make up 20 percent of the mapping unit. These include at higher elevations loamy soils that are similar to the Convent soils, but are coarser textured and contain reddish gray to brown layers up to 18 inches thick. Also included at lower elevations are soils similar to the Fausse soils that contain layers of reddish clay. Separate areas of included minor soils generally are less than 50 acres in size.

The Convent soils are at 10 to 25 foot elevations on natural levees of distributary channels and spoilbanks of manmade canals. They are in bands up to one-half mile in width and up to several miles in length.

Typically, Convent soils have a mildly alkaline, dark grayish brown silt loam surface layer about 4 inches thick. The next layer to a depth of 8 inches is a mildly alkaline, brown silt loam. The next layer to a depth of 40 inches is mildly and moderately alkaline, grayish brown silt loam mottled with shades of brown. Below this is moderately alkaline, grayish brown silt loam with strong bedding planes.

These soils are high in natural fertility. Water runs off the surface at a slow to medium rate. Plant roots penetrate easily. Water and air move moderately fast through the soil. Most of the acreage is generally flooded for long periods one or more times each year and is subject to scouring and deposition. In most years, flooding occurs during the months of December through July. Depth of floodwaters may exceed 10 feet at the lower elevations. During nonflood periods the water table fluctuates between the surface and a depth of 2 feet. Adequate moisture is available to plants in most years.

The Fausse soils are in low depressions. The elevation is less than 10 feet above sea level.

Typically, Fausse soils have a neutral, dark gray clay surface layer about 10 inches thick. The subsoil to a depth of 30 inches is mildly alkaline, gray clay with dark brown mottles. The next layer to a depth of 52 inches is a moderately alkaline gray clay with reddish brown mottles. Below this to a depth of 60 inches is moderately alkaline, dark greenish gray clay with olive mottles.

The Fausse soils are high in fertility. Water and air move very slowly through these soils. They generally are flooded one or more times each year during the months of December through June. Depth of floodwater may exceed 15 feet at the lower elevations. Some depressional areas are nearly continuously flooded. Unless the soil is flooded, the water table fluctuates between depths of 0.5 foot and 2 feet. These soils have a very high shrink-swell potential but seldom dry out enough to crack. Adequate moisture is available to plants throughout the year.

Most of the acreage is in woodland. The tree commonly growing on Convent soils is black willow (fig. 7). The trees commonly growing on the Fausse soils include baldcypress, black willow, green ash, honeylocust, and water tupelo. A complete list of plants observed on both soils is given in table 13. These soils are used for wildlife habitat and recreation. Some of the Convent soils at higher elevations are used for limited grazing of native plants. Some of the Fausse soils are used for commercial crawfishing. Also, a small acreage is in oil and gas fields.

The potential for cropland and pasture is very poor because of flooding and the permanent high water table of the Fausse soils. These soils provide good natural habitat for many wildlife species.

The potential for woodland is poor because of flooding, scouring, and deposition.

The potential for urban use is very poor. Flooding is a limitation for most uses. High shrink-swell potential and low strength of the Fausse soils are limitations for foundations and construction material. Capability subclass VIIw.

FA—Fausse association. This association consists of level, clayey soils that are flooded much of the time. They occur at low elevations in the backswamps of broad depressions (fig. 8). They are at elevations below 8 feet above sea level in the northern part of the parish and at elevations below 5 feet above sea level in the southern part. They formed in clayey alluvium. Slope gradient is less than 0.5 percent. These soils occur in large tracts ranging from several hundred acres to several thousand acres in size.

The soils in this unit are broadly defined, but they were examined closely enough to make soil interpretations for the present and expected uses. The Fausse soils make up about 80 percent of the mapping unit.

Typically, the surface layer of the Fausse soils is neutral, very dark gray mucky clay about 5 inches thick. The next layer, extending to a depth of 10 inches, is mildly alkaline, dark gray clay with dark brown mottles. The next layer, extending to a depth of 60 inches, is moderately alkaline, dark gray or gray clay mottled in shades of brown and gray.

Sharkey soils on the low ridges and Barbary soils in the slight depressions make up about 20 percent of this mapping unit. Separate areas of these soils generally are less than 50 acres in size.

The Fausse soils are high in fertility. Water and air move very slowly through the soils. They are generally flooded one or more times each year during the months of December through July. Depths of floodwaters may exceed 5 feet at the lower elevations. Some depressional areas are nearly continuously flooded. During nonflood periods the water table fluctuates between the surface and 2 feet below the surface. These soils have a very high shrink-swell potential but seldom dry out enough to crack. Adequate moisture is available to plants in most years.

Most of the acreage is in woodland. Trees commonly growing on Fausse soils include baldcypress, black willow,

green ash, honey locust, pumpkin ash, sweetgum, water elm, water hickory, water locust, and water tupelo. A complete list of plants observed growing on these soils is given in table 13. These soils are used primarily for wildlife habitat and recreation. Some of the area is used for commercial crawfishing and a small acreage is in oil and gas fields.

The potential for cropland and pasture is very poor primarily because of flooding. The potential is limited for woodland because of flooding and wetness. These soils provide natural habitat and haven for many wildlife species.

The potential for urban use is very poor. Flooding and wetness are the principal limitations for such uses as septic tank absorption fields, sanitary landfills, homesites, and local roads and streets. High shrink-swell potential and low strength are limitations for use as foundations or as construction material. Capability subclass VIIw.

FU—Fausse soils. This mapping unit consists of level clayey soils that are flooded much of the time. They occur at low elevations in the backswamps of the broad depressions within the Atchafalaya Basin Floodway. Floodway flow rights are owned by the Federal Government. Elevations range from about 15 feet above sea level in the northernmost areas to less than 3 feet in the southern parts of the Floodway. These soils formed in clayey alluvium. Slope gradients are less than 0.5 percent. These soils occur in large tracts ranging from several hundred acres to several thousand acres in size. In any delineation the surface layer can be mucky clay, or clay, or both.

The soils in this unit are broadly defined, but they were examined closely enough to make soil interpretations for the present and expected uses. The composition of this unit is subject to change as floodwaters deposit new sediments.

A typical area of this mapping unit is about 75 percent Fausse soils. Minor soils make up about 25 percent of this unit. Included in mapping are areas of Convent and Sharkey soils that are at slightly higher elevations and Barbary soils that are at lower elevations. Also included are small areas of clayey soils that are similar to the Fausse soils but contain reddish gray clay layers. In addition, small areas of clayey spoil materials which occur along manmade channels are included. Separate areas of included soils generally are less than 50 acres in size.

Typically, the surface layer of the Fausse soils is slightly acid, dark gray clay about 10 inches thick with reddish brown mottles. The subsoil, extending to a depth of 23 inches, is neutral, gray and dark gray clay mottled in shades of brown. Below this, extending to a depth of 60 inches, is mildly alkaline, gray and dark greenish gray clay mottled in shades of brown.

These soils are high in fertility. Water and air move very slowly through these soils. They are generally flooded one or more times each year during the months of December through July. Depths of floodwaters may exceed 20 feet at the lower elevations. Some depressional areas are nearly continuously flooded. During nonflood periods, the water table fluctuates between the surface and 2 feet below the surface. These soils have a very high shrink-swell potential, but seldom dry out enough to crack. Adequate moisture is available to plants in most years.

Most of the acreage is in woodland. Trees commonly growing on the Fausse soils include baldcypress, black willow, green ash, honey locust, pumpkin ash, sweetgum, water elm, water hickory, water locust, and water tupelo. A list of native plants observed growing on these soils is given in table 13. These soils are used mostly for wildlife habitat, commercial crawfishing, and recreation. A small acreage is in oil and gas fields.

The potential for cropland and pasture is very poor primarily because of flooding. The potential for woodland is poor. Management for woodland is difficult because of long periods of flooding and wetness. These soils provide good natural habitat and haven for many wildlife species.

The potential for urban use is very poor. Flooding and wetness are the principal limitations for such uses as septic tank absorption fields, sanitary landfills, homesites, and local roads and streets. High shrink-swell potential and low strength are limitations for use as foundations or as construction material. Capability subclass VIIw.

Sa—Sharkey silty clay loam. This level soil is at the low and intermediate parts of the natural levees of the Mississippi River and its distributaries. It formed in clayey alluvium. It occurs in tracts ranging from 15 to 700 acres in size. Slope gradients are less than 1 percent.

Typically, the surface layer is neutral, dark gray silty clay loam, about 11 inches thick, mottled in shades of brown. The next layer, extending to a depth of 60 inches, is mildly and moderately alkaline, dark gray clay mottled in shades of brown.

Included with this soil in mapping are a few areas of Commerce and Tunica soils. Also included are small areas of Sharkey clay. The included soils make up about 15 percent of the mapping unit. Separate areas of included soils generally are less than 2 acres in size.

This soil is high in fertility. Wetness causes poor aeration and restricts the root development of many plants. Water and air move very slowly through the subsoil. Water runs off the surface at a slow to very slow rate. Water stands in low areas for short periods after heavy rains. The seasonally high water table fluctuates between a depth of 2 feet and the soil surface during the months of December through April. The surface layer is wet for long periods in the winter and spring. This soil dries out more slowly than most of the adjoining soils that occur at higher elevations. This soil has a very high shrink-swell potential. It cracks when dry and seals over when wet. Adequate moisture is available to plants in most years.

Most of the acreage is in cropland and pasture. A small acreage is in woodland and homesites.

The potential for cropland and pasture is good. The high fertility and nearly level slopes make this soil favorable for growing cultivated crops, but its wetness is a less favorable feature for this use. Suitable crops in-

clude grain sorghum, rice, sugarcane, and soybeans. Suitable pasture plants are common bermudagrass, dallisgrass, johnsongrass, Pensacola bahiagrass, ryegrass, tall fescue, southern wild winter peas, and white clover.

This soil is somewhat sticky when wet, hard when dry, and somewhat difficult to keep in good tilth. It can be worked within only a somewhat narrow range of moisture content and is subject to becoming cloddy when worked. Wetness may delay planting and harvesting crops. A drainage system is needed for cropland and pasture. Land grading or smoothing will improve surface drainage and increase the efficiency of farm equipment. Proper management of crop residues will help maintain organic content, improve tilth, and reduce soil losses by erosion. Irrigation is needed for rice. Most crops other than legumes respond well to nitrogen fertilizer. Lime or other fertilizers generally are not needed.

The potential for urban use is poor. Wetness is a limitation for such uses as septic tank absorption fields, sanitary landfills, homesites, and local roads and streets. High shrink-swell potential and low strength are limitations for use of the soil as foundations or as construction material.

The good potential for woodland and certain kinds of wildlife habitat is overshadowed by the value for cropland and pasture. Capability subclass IIIw.

Sc—Sharkey clay. This level, clayey soil is at the lower parts of the natural levees of the Mississippi River and its distributaries. It occurs in tracts ranging from about 10 to over 5,000 acres in size. It formed in clayey alluvium. Slope gradients are less than 1 percent.

Typically, the surface layer is neutral very dark grayish brown clay, about 9 inches thick, with dark brown mottles. The next layer, extending to a depth of 60 inches, is mildly alkaline and moderately alkaline, gray clay mottled in shades of brown.

Included with this soil in mapping are a few small areas of Tunica and Commerce soils and Sharkey silty clay loam that occur at slightly higher elevations. Also included are small areas of the frequently flooded Sharkey clay soils. The included soils make up about 10 percent of this mapping unit, but separate areas generally are less than 2 acres in size.

This soil is high in fertility. Wetness causes poor aeration and restricts root development of many plants. Water runs off the surface at a slow to very slow rate. Water stands in low areas for short periods after heavy rains. The seasonally high water table fluctuates between a depth of 2 feet and the soil surface during the months of December through April. The surface layer is wet for long periods in the winter and spring. This soil dries out more slowly than most of the adjoining soils that occur at higher elevations.

This soil has a very high shrink-swell potential. It cracks when dry and seals over when wet. Adequate moisture is available to plants in most years.

Most of the acreage is in cropland and pasture. A small acreage is in woodland and homesites. Sugarcane and soybeans are the main crops.

The potential for cropland and pasture is good. The level slopes and high fertility make this soil favorable for growing cultivated crops, but its wetness and clayey texture are less favorable features for this use.

Suitable crops are sugarcane, soybeans, grain sorghum, and rice. Suitable pasture plants are common bermudagrass, Pensacola bahiagrass, dallisgrass, ryegrass, tall fescue, small grains, and white clover.

This soil is sticky when wet, hard when dry, and difficult to keep in good tilth. It can be worked within only a narrow range of moisture content and is subject to becoming cloddy when worked. Wetness may delay planting and harvesting crops. A drainage system is needed for cropland and pasture. Land grading or smoothing will improve surface drainage and increase efficiency of farm equipment. Proper crop residue management will help maintain organic content, improve tilth, and reduce soil losses by erosion. Irrigation is needed for rice. Most crops other than legumes respond well to nitrogen fertilizer. Lime or other fertilizers generally are not needed.

The potential for urban use is poor. Wetness is a limitation for such uses as septic tank absorption fields, sanitary landfills, homesites, and local roads and streets. High shrink-swell potential is a limitation for use as foundations or as construction material.

The good potential for woodland and certain kinds of wildlife habitat is overshadowed by the value for cropland. Capability subclass IIIw.

Sh—Sharkey clay, gently undulating. This clayey soil is on low parallel ridges and in swales in low depressional areas on natural levees of the Mississippi River and its distributaries. It formed in clayey alluvium. The ridges range from 1 to 3 feet high and seldom exceed 150 feet wide. Swales range from 75 to 125 feet wide. This soil occurs in large tracts ranging to over 800 acres in size. Most of the acreage is in the Point Pleasant and Plaquemine Point area of the parish. Slope gradient ranges from 0 to 3 percent.

Typically, the surface layer is neutral very dark grayish brown clay, about 9 inches thick, with dark brown mottles. The subsoil, extending to a depth of 42 inches, is a mildly alkaline, dark gray clay mottled in shades of brown. The underlying material is mildly alkaline, gray and olive gray clay with dark brown mottles.

Included with this soil in mapping are a few small areas of Tunica soils on the higher ridgetops and some small areas of Sharkey clay in the low swales that are flooded. The included soils make up about 15 percent of the mapping unit. Separate areas of included soils generally are less than 5 acres in size.

This soil is high in fertility. Wetness causes poor aeration and restricts root development of many plants. Water and air move very slowly through the soil. Water runs off the surface of the ridges into the swales at a medium rate, and surface runoff in the swales is at a slow or very slow rate. The surface layer is wet for long periods in the winter and spring. In some areas water stands in the swales for significant periods in the winter

and spring. The seasonally high water table fluctuates between a depth of 2 feet and the surface during the months of December through April. The soil in the swales dries out more slowly than the soil on the ridges. This soil has a very high shrink-swell potential. It cracks when dry and seals over when wet. Adequate moisture is available to plants in most years.

Most of the acreage is in pasture and woodland (fig. 9). The potential for cropland is poor, and the potential for pasture is fair. Wetness, irregular slope, and clayey texture make this one of the less desirable soils for cropland.

Suitable crops are grain sorghum, sugarcane, and soybeans. Suitable pasture plants include common bermudagrass, dallisgrass, johnsongrass, tall fescue, ryegrass, white clover, and southern wild winter peas.

This soil is sticky when wet and hard when dry and is difficult to keep in good tilth. It can be worked within only a narrow range of moisture content and is subject to becoming cloddy when worked. Wetness, especially in the swales, may delay planting and harvesting of crops. A drainage system is needed to remove excess surface water from the swales when the soil is used for cropland and pasture. Land grading or smoothing will improve drainage and increase the efficiency of farm equipment, but a large yardage of earth will have to be moved. Proper management of crop residues will help maintain organic content, improve tilth, and reduce soil losses by erosion. Most crops other than legumes respond well to nitrogen fertilizer. Lime or other fertilizers generally are not needed.

The potential for urban use is poor. Wetness is the principal limitation for such uses as septic tank absorption fields, sanitary landfills, homesites, and local roads and streets. High shrink-swell potential is a limitation for use as foundations or as construction material.

The potential for woodland is good, but wetness and the clayey texture restrict use of equipment.

The potential for wildlife habitat is good, but the ridges and swales interfere with shallow water impoundment. Capability subclass IIIw.

Sk—Sharkey clay, frequently flooded. This level clayey soil on the lower parts of the natural levees of the Mississippi River and its distributaries is subject to flooding. It formed in clayey alluvium. It occurs mostly in large tracts ranging from several **hundred** to several thousand acres in size. Slope gradients are less than 0.5 percent.

Typically, the surface layer is neutral very dark grayish brown clay mottled in shades of brown and about 7 inches thick. The next layer, extending to a depth of 60 inches, is moderately alkaline, dark gray or gray clay mottled in shades of brown.

Included with this soil in mapping are a few small areas of Fausse soils. Also included are some Sharkey and Tunica soils on higher areas that are not subject to frequent flooding. Included soils make up about 10 percent of this mapping unit, but separate areas generally are less than 3 acres in size.

This soil is high in fertility. Water runs off the surface at a very slow rate. Water and air move very slowly through the soil. Wetness causes poor aeration and restricts root development of many plants. This soil is generally subject to flooding one or more times each year with up to 2 feet of water during the months of December through July. Unless the soil is flooded, the water table fluctuates between the surface and 2 feet below the surface. This soil has a very high shrink-swell potential. It cracks when dry and seals over when wet. Adequate moisture is available to plants in most years.

Most of the acreage is in woodland. Trees commonly growing on this soil are black willow, common persimmon, Drummond red maple, green ash, honey locust, overcup oak, sugarberry, sweetgum, water hickory, water locust, and water oak. A complete list of native plants observed growing on this soil is given in table 13. This soil is also used for wildlife habitat and recreation.

The potential for cropland and pasture is very poor because of wetness and flooding. Some of the higher areas, where flooding is less severe, may be managed for grazing of native grasses. This soil has a fair potential for woodland, but managing this soil for woodland is difficult because of wetness and flooding. This soil provides good natural habitat and haven for many wildlife species.

The potential for urban use is very poor. Flooding and wetness are the principal limitations for septic tank absorption fields, sanitary landfills, homesites, and local roads and streets. High shrink-swell potential and low strength are limitations for use as foundations or as construction material. Capability sublcass Vw.

SS—Sharkey soils, occasionally flooded. This mapping unit consists of level clayey soils that are subject to flooding (fig. 10). These soils are on intermediate parts of natural levees within the Atchafalaya Basin Floodway. Floodway flow rights are owned by the Federal Government. Most of these soils are at elevations of about 15 feet above sea level or slightly higher. These soils formed in clayey alluvium. Slope gradients are less than 1 percent. These soils occur in tracts ranging in size from several hundred to over 1,000 acres. The soils in this unit are broadly defined, but they were examined closely enough to make soil interpretations for the present and expected uses. The composition of this unit is subject to change because of deposition from floodwaters.

A typical area of this mapping unit is about 75 percent Sharkey soils. Minor soils make up about 25 percent of this mapping unit. Included are areas of Commerce and Tunica soils at slightly higher elevations. Also included are areas of Fausse and Sharkey soils at lower elevations that are subject to more frequent flooding. Separate areas of included soils generally are less than 50 acres, but a few delineations contain large areas of Tunica and Fausse soils.

Typically, the surface layer of the Sharkey soils is slightly acid, dark gray clay about 7 inches thick. The next layer, extending to a depth of 60 inches, is neutral through moderately alkaline, dark gray and gray clay mottled in shades of brown.

These soils are high in fertility. Water runs off the surface at a very slow rate. Water and air move very slowly through the soil. Wetness causes poor aeration and restricts root development of many plants. Unless the soils are flooded, the seasonally high water table fluctuates between the surface and 2 feet below the surface during the months of December through April. The surface layer is wet for long periods during these months. These soils generally are subject to flooding in about 4 years out of 5 during the months of December through June. Depth of floodwaters may exceed 5 feet in most areas. These soils have a very high shrink-swell potential. They crack when dry and seal over when wet. Adequate moisture is available to plants in most years.

Most of the acreage is in woodland. Trees commonly growing on the Sharkey soils are black willow, common persimmon, Drummond red maple, green ash, honey locust, laurel oak, Nuttall oak, overcup oak, sugarberry, sweetgum, and water oak. A complete list of native plants observed growing on these soils is given in table 13. These soils are used primarily for wildlife habitat, but a small acreage is used for cropland and pasture.

The potential for cropland and pasture is poor because of flooding. Suitable crops are soybeans and grain sorghum. Suitable pasture plants are common bermudagrass, Pensacola bahiagrass, and dallisgrass.

The potential for woodland is good. These soils provide good natural habitat and haven for many wildlife species.

The potential for urban use is very poor. Flooding and wetness are principal limitations for most uses. Very high shrink-swell and low strength are limitations when used for foundations and construction material. Capability unit IVw.

SY—Sharkey and Fausse soils. This mapping unit consists of level clayey soils that are subject to flooding. These soils occur on the low natural levees along distributary channels and in backswamps in the western part of the parish within the Atchafalaya Basin Floodway. Floodway flow rights are owned by the Federal Government. These soils formed in clayey alluvium. Slope gradients are less than 1 percent. The large tracts contain several thousand acres each.

The soils in this unit are broadly defined, but they were examined closely enough to make soil interpretations for the present and expected uses. This unit consists of Sharkey and Fausse soils, which are closely associated, but the pattern is irregular. Individual areas of both soils are large enough to map separately, but because of present and predicted uses they were not separated in mapping. Most mapped areas contain both soils, but the proportion of the Sharkey soils and the Fausse soils varies from place to place.

A typical area of this mapping unit is about 70 percent Sharkey soils and 20 percent Fausse soils. The remaining 10 percent consists of Tunica and Commerce soils on the ridgetops of natural levees, some small areas of clayey spoil material, and some higher areas on the natural levees that are less subject to flooding. Separate areas of included soils generally are less than 60 acres.

The Sharkey soils are at the higher elevations on the natural levees of old distributary channels. They occur in bands ranging from several hundred feet to over one-half mile wide and typically are several miles long.

Typically, the Sharkey soils have a surface layer that is neutral, dark gray clay, mottled in shades of brown, about 9 inches thick. The next layers, extending to a depth of 60 inches, are moderately alkaline, dark gray and gray clay mottled in shades of brown.

These soils are high in fertility. Water runs off the surface at a very slow rate. Water and air move very slowly through the soil. Wetness causes poor aeration and restricts root development of many plants. These soils are generally subject to flooding one or more times each year during the months of December through June. Depth of floodwaters may exceed 10 feet. Unless the soils are flooded during the winter and spring, the water table fluctuates between the surface and 2 feet below the surface. These soils are wet for long periods. During dry periods, Sharkey soils dry out faster than the associated Fausse soils at slightly lower elevations. They have a very high shrink-swell potential. They crack when dry and seal over when wet. Adequate moisture is available to plants in most years.

The Fausse soils are at the lower elevations in swales on natural levees and in large depressions between natural levees.

Typically the Fausse soils have a neutral, very dark gray and dark gray clay surface layer about 5 inches thick. The next layer, extending to a depth of 60 inches, is mildly alkaline and moderately alkaline, dark gray and gray clay mottled in shades of brown and gray.

These soils are high in fertility. Water and air move very slowly through the soils. They are generally flooded one or more times each year during the months of December through July. Depths of floodwaters may exceed 20 feet at the lower elevations. Some of the lowest depressional areas are nearly continuously flooded. These soils have a very high shrink-swell potential but seldom dry out enough to crack. Adequate moisture is available to plants in most years.

Most of the acreage is in woodland and is used primarily for wildlife habitat and recreation. Trees commonly growing on these soils include black willow, green ash, honey locust, sweetgum, water hickory, and water locust. In addition, sugarberry, water oak, overcup oak, and common persimmon are common on the Sharkey soils. Pumpkin ash, water elm, and water tupelo are common on the Fausse soils. A complete list of native plants observed growing on these soils is given in table 13. Some small areas of the Sharkey soils at the higher elevations are used for limited grazing of native plants. Fausse soils in some areas are used for commercial crawfishing.

The potential for cropland and pasture is very poor. These soils provide good natural habitat and haven for many wildlife species. The Fausse soils are the main producers of crawfish. The potential for woodland is fair. Management of both soils for woodland is difficult because of flooding and wetness.

The potential for urban use is very poor. Flooding and wetness are the main limitations. High shrink-swell potential and low strength are limitations for foundations and construction material. Capability subclass VIIw.

Tu—Tunica clay. This level soil is on the lower and intermediate parts of the natural levees of the Mississippi River and its distributaries. It formed in alluvium and is clayey in the upper layers and loamy in the lower layers. It occurs in tracts ranging from about 20 acres to 60 acres in size. Slope gradients are less than 1 percent.

Typically, the surface layer is neutral very dark grayish brown clay, about 7 inches thick, with dark yellowish brown mottles. The subsoil, extending to a depth of 25 inches, is neutral and mildly alkaline, dark gray clay with dark yellowish brown mottles. The underlying material is mildly alkaline, grayish brown silt loam with yellowish brown mottles.

Included with this soil in mapping are a few small areas of Sharkey and Commerce soils. Also included, mainly on the natural levees of Bayou Maringouin, are small areas of soils that are clayey to depths less than 20 inches. Included soils make up about 15 percent of the mapping unit, but separate areas of included soils generally are less than 3 acres in size.

This soil is high in fertility. Wetness causes poor aeration and restricts root development of many plants. Water and air move very slowly through the soil. The surface layer is wet for long periods during the winter and spring. The seasonally high water table fluctuates between depths of 1 1/2 to 3 feet during the months of December through April. This soil dries out more slowly than the adjoining loamy soils that occur at higher elevations. It has a very high shrink-swell potential. It cracks when dry and seals over when wet. Adequate moisture is available to plants in most years.

Most of the acreage is in pasture, woodland, and cropland. Soybeans and sugarcane are the main crops.

The potential for cropland and pasture is good. The level slopes and high fertility make this soil favorable for growing cultivated crops, but its wetness and clayey surface texture are less favorable features for this use.

Suitable crops are sugarcane, soybeans, rice, and grain sorghum. Suitable pasture plants are common bermudagrass, Pensacola bahiagrass, dallisgrass, johnsongrass, tall fescue, ryegrass, small grains, white clover, and southern wild winter peas.

This soil is sticky when wet, hard when dry, and difficult to keep in good tilth. It can be worked within only a narrow range of moisture content and is subject to becoming cloddy when worked. Wetness may delay planting and harvesting crops. A drainage system is needed for cropland and pasture. Land grading or smoothing will improve surface drainage and increase the efficiency of farm equipment. Proper management of crop residues will help maintain organic content, improve tilth, and reduce soil losses by erosion. Irrigation is needed for rice. Most crops other than legumes respond well to nitrogen fertilizer. Lime or other fertilizers generally are not needed.

The potential for urban use is poor. Wetness is the principal limitation for such uses as septic tank absorption fields, sanitary landfills, homesites, and local roads and streets. High shrink-swell potential is a limitation for use as foundations or as construction material.

The good potential for woodland and certain kinds of wildlife habitat is overshadowed by the value for cropland and pasture. Capability subclass IIIw.

Va—Vacherie silt loam. This nearly level soil occurs on the intermediate parts of the natural levees of the Mississippi River and its distributaries. It formed in alluvium and is loamy in the upper layers and clayey in the lower subsoil. Slope gradients are less than 1 percent. This soil occurs in tracts ranging from 20 to 200 acres in size.

Typically, the surface layer is mildly alkaline dark gray and dark grayish brown silt loam, about 14 inches thick, with dark brown mottles. The subsoil to a depth of 21 inches is mildly alkaline grayish brown silt loam with dark yellowish brown mottles. Below this is moderately alkaline dark gray and gray clay mottled in shades of brown.

Included with this soil in mapping are a few small areas of Convent and Commerce soils that make up about 10 percent of the unit. Separate areas of included soils generally are less than 2 acres in size.

The soil is high in fertility. Plant roots penetrate easily. Water and air move moderately fast through the loamy upper layers, but the lower clayey layers slow water movement. Wetness in the lower subsoil causes poor aeration and restricts root development of some deep rooted plants. Water runs off the surface at a slow rate. The seasonal high water table fluctuates between depths of 1 to 3 feet during the months of December through April. The surface layer is wet for significant periods in winter and spring. Adequate moisture is available to plants in most years.

Most of the acreage is in cropland. Sugarcane is the principal crop. The potential for cropland and pasture is very good. The nearly level slopes, the high fertility, and the loamy surface texture make this one of the more desirable soils for cropland in the parish. Suitable crops are sugarcane, soybeans, corn, small grains, and truck crops. Suitable pasture plants are common bermudagrass, improved bermudagrass, dallisgrass, Pensacola bahiagrass, ryegrass, johnsongrass, white clover, and southern wild winter peas.

The surface layer of this soil is friable and easy to keep in good tilth. In some areas young row crop plants are damaged when the soil is washed away from the roots by heavy rains. Trafficpans develop easily when this soil is under cultivation but can be broken by chiseling or deep plowing. A surface drainage system is needed for the optimum production of most cultivated crops. Land smoothing or grading will improve surface drainage and increase the efficiency of farm equipment, but deep cutting may expose clayey layers. Proper management of crop residues will help maintain organic content, improve

tilth, and reduce soil losses by erosion. Most crops respond well to nitrogen fertilizer. Lime or other fertilizers generally are not needed.

The potential for urban use is fair. Wetness is the main limitation when this soil is used for septic tank absorption fields, sanitary landfills, homesites, and local roads and streets. Low strength and high shrink-swell potential of the clayey layers are limitations for foundations or construction materials.

The good potential for woodland and certain kinds of wildlife habitat is overshadowed by the value for cropland and pasture. Capability subclass IIw.

Use and Management of the Soils

The soil survey is a detailed inventory and evaluation of the most basic resource of the survey area—the soil. It is useful in adjusting land use, including urbanization, to the limitations and potentials of natural resources and the environment. Also, it can help avoid soil-related failures in uses of the land.

While a soil survey is in progress, soil scientists, conservationists, engineers, and others keep extensive notes about the nature of the soils and about unique aspects of behavior of the soils. These notes include data on erosion, drought damage to specific crops, yield estimates, flooding, the functioning of septic systems, and other factors affecting the productivity, potential, and limitations of the soils under various uses and management. In this way, field experience and measured data on soil properties and performance are used as a basis for predicting soil behavior.

Information in this section is useful in planning use and management of soils for crops and pasture, rangeland, and woodland, and as sites for buildings, highways and other transportation systems, sanitary facilities, parks and other recreation facilities, and wildlife habitat. From the data presented, the potential of each soil for specified land uses can be determined, soil limitations to these land uses can be identified, and costly failures in houses and other structures, caused by unfavorable soil properties, can be avoided. A site where soil properties are favorable can be selected, or practices that will overcome the soil limitations can be planned.

Planners and others using the soil survey can evaluate the impact of specific land uses on the overall productivity of the survey area or other broad planning area and on the environment. Productivity and the environment are closely related to the nature of the soil. Plans should maintain or create a land-use pattern in harmony with the natural soil.

Contractors can find information that is useful in locating sources of sand and gravel, roadfill, and topsoil. Other information indicates the presence of bedrock, wetness, or very firm soil horizons that cause difficulty in excavation.

Health officials, highway officials, engineers, and many other specialists also can find useful information in this soil survey. The safe disposal of wastes, for example, is closely related to properties of the soil. Pavements, sidewalks, campsites, playgrounds, lawns, and trees and shrubs are influenced by the nature of the soil.

Crops and Pasture

By DALE ROCKETT, agronomist, Soil Conservation Service.

The major management concerns in the use of the soils for crops and pasture are described in this section. The system of land capability classification used by the Soil Conservation Service is explained, and the estimated yields of the main crops and hay and pasture plants are presented for each soil.

This section provides information about the overall agricultural potential of the survey area and about the needed management practices. The information is useful to equipment dealers, land improvement contractors, fertilizer companies, processing companies, planners, conservationists, and others. For each kind of soil, information about management is presented in the section "Soil Maps for Detailed Planning." Planners of management systems for individual fields or farms should also consider the detailed information given in the description of each soil.

Specific recommendations for fertilizer, crop varieties, and seeding mixtures are not given. These change from time to time as more complete information is obtained. For more detailed information, consult the local staff of the Soil Conservation Service, the Extension Service, or the Louisiana Agricultural Experiment Station.

More than 102,000 acres in Iberville Parish was used for crops and pasture in 1967, according to a conservation needs inventory published in 1969. Of this total, about 57,000 acres was used for row crops, mainly sugarcane and fallow sugarcane fields, and more than 45,000 acres for pasture. Sugarcane acreage varies according to sugar programs and prices, but the overall cropland acreage decreased since 1958 because of abandonment of marginal soils previously used for sugarcane and also loss of riverfront acreage to industrial sites. Acreage in pasture has increased because of clearing of soils too wet for cropland and also conversion of marginal sugarcane land to pasture.

GENERAL PRINCIPLES OF MANAGEMENT FOR CROPS AND PASTURE. Differences among the soils in such factors as fertility needs, erodibility, organic matter content, water available for plant growth, soil tillage, drainage needs and flooding hazard, and cropping system result in differences in crop suitability and management needs. Each farm has its own soil pattern and, therefore, its own management problems. Some principles of farm management apply only to specific soils and certain crops. This section presents the general principles of management, which can be applied widely to the soils of Iberville Parish.

FERTILIZATION AND LIMING. The amount of fertilizer needed depends upon the following: (1) the crop to

be grown, (2) past cropping history, (3) level of yield desired, and (4) soil phase. Specific recommendations should be based on laboratory analysis.

A soil sample for laboratory testing should consist of a single soil type and should represent no more than 10 acres. Agricultural agencies in the parish can supply detailed information and instruction regarding taking soil samples.

The soils in Iberville Parish range in reaction from medium acid to moderately alkaline in the upper 20 inches. They generally do not require lime.

ORGANIC MATTER CONTENT. Organic matter is important as a source of nitrogen for crop growth and is also important in increasing water intake rates, in reducing surface crusting and soils losses by erosion, and in promoting a good physical condition of the surface soil. Most of the soils in Iberville Parish are moderately low in organic matter content.

Organic matter can be built up to a limited extent and maintained by leaving plant residue on the soil, by promoting bigger plant growth and growing plants with extensive root systems, by adding barnyard manure, and by growing perennial grasses and legumes in rotation with other crops. In this parish, sugarcane plant residue is important in maintaining organic matter content.

SOIL TILLAGE. The major purpose of soil tillage is seedbed preparation and weed control. Seedbed preparation, cultivating, and harvesting usually work in the direction of destroying soil structure. Excessive cultivating of the soils should be avoided. Some of the fine textured soils in the parish become cloddy when cultivated. A compacted layer develops in the medium textured soils when plowed at the same depth for long periods and when plowed wet. This compacted layer is generally known as a trafficpan or plowpan, and it develops just below the plow depth. The development of this compacted layer can be avoided by not plowing when the soil is wet, by changing to another depth of plowing, or by subsoiling or chiseling.

Some tillage implements stir the surface and leave crop residues on the soil surface for protection from beating rains. This helps control erosion, reduces runoff, and increases infiltration.

DRAINAGE. Many of the soils in the parish need surface drainage to make them more suitable for crops. Early drainage methods involved a complex pattern of main ditches, laterals, and field drains. The more recent approach to drainage in this parish is a combination of land leveling and grading with a minimum of open ditches. This creates larger and more uniformly shaped fields which are more suited to the use of modern multirow farm machinery.

The Mississippi River guide levee system and the east Atchafalaya Basin protection levee protect most of the cropland and pastureland from flooding by these two rivers. Nevertheless, some of the soils at the lower elevations are subject to flooding from runoff from higher areas. Flooding on many of these areas can be controlled only by constructing a ring levee system and using pumps to remove excess water.

WATER FOR PLANT GROWTH. In Iberville Parish, water is commonly available at the critical time for optimum plant growth without irrigation. Large amounts of rainfall occur in the summer months with a distribution pattern that favors the growth of sugarcane. This rainfall pattern precludes economical production of certain crops such as cotton, which is better suited to a drier climate. The available water holding capacity of the cropland soils is high to very high.

CROPPING SYSTEM. A desirable combination of crops in a good cropping system includes a legume for nitrogen, a crop to aid in weed control, a deep-rooted crop to utilize substratum fertility and maintain substratum permeability, and a close-growing crop to help maintain the organic matter. In a good cropping system, the sequence of crops should be such that the soil is covered as much of the year as possible.

In this parish, three crops of sugarcane are generally obtained from each planting. After the third crop of sugarcane, the field is planted to soybeans or, more commonly, is fallowed for 1 year. The organic matter content of the soil can be maintained at a desirable level under this system by properly utilizing the sugarcane plant residues.

A suitable cropping system varies with the needs of the farmer and the soil. Producers of livestock, for example, generally use cropping systems that have a higher percentage of pasture than those having a cash-crop type of farming. Additional information on cropping systems can be obtained from the Soil Conservation Service, Extension Service, or the Louisiana Agricultural Experiment Station.

CONTROL OF EROSION. The control of erosion is not a serious problem in Iberville Parish mainly because of the level to nearly level slope gradients. Nevertheless, soil loss does occur from fallow plowed fields and from newly constructed drainage ditches. Some gully erosion occurs at overfalls into drainage ditches. Sheet erosion can be reduced by maintaining plant or residue cover on the soil as much of the time as possible, by holding the number of cultivations of a crop to a minimum, and by controlling weeds by methods other than fallow plowing. Newly constructed ditches should be seeded immediately after construction. Water control structures placed at overfalls into drainage ditches control gully erosion.

Yields Per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 6. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. Absence of an estimated yield indicates that the crop is not suited to or not commonly grown on the soil.

The estimated yields were based mainly on the experience and records of farmers, conservationists, and extension agents. Results of field trials and demonstrations and available yield data from nearby parishes were also considered.

The yields were estimated assuming that the latest soil and crop management practices were used. Pasture yields were estimated for the most productive varieties of grasses climatically suited to the area and the soil. A few farmers may be obtaining average yields higher than those shown in table 6.

The management needed to achieve the indicated yields of the various crops depends on the kind of soil and the crop. Such management provides drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate tillage practices, including time of tillage and seedbed preparation and tilling when soil moisture is favorable; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residues, barnyard manure, and green-manure crops; harvesting crops with the smallest possible loss; and timeliness of all fieldwork.

The estimated yields reflect the productive capacity of the soils for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 6 are grown in the survey area, but estimated yields are not included because the acreage of these crops is small. The local offices of the Soil Conservation Service and the Cooperative Extension Service can provide information about the management concerns and productivity of the soils for these crops.

Capability Classes and Subclasses

Capability classes and subclasses show, in a general way, the suitability of soils for most kinds of field crops. The soils are classed according to their limitations when they are used for field crops, the risk of damage when they are used, and the way they respond to treatment. The grouping does not take into account major and generally expensive landforming that would change slope, depth, or other characteristics of the soils; does not take into consideration possible but unlikely major reclamation projects; and does not apply to rice, cranberries, horticultural crops, or other crops that require special management. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forest trees, or for engineering purposes.

In the capability system, all kinds of soil are grouped at three levels: capability class, subclass, and unit. These levels are defined in the following paragraphs. A survey area may not have soils of all classes.

CAPABILITY CLASSES, the broadest groups, are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use; they are defined as follows:

Class I soils have few limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III soils have severe limitations that reduce the choice of plants, or that require special conservation practices, or both.

Class IV soils have very severe limitations that reduce the choice of plants, or that require very careful management, or both.

Class V soils are not likely to erode but have other limitations, impractical to remove, that limit their use.

Class VI soils have severe limitations that make them generally unsuitable for cultivation.

Class VII soils have very severe limitations that make them unsuitable for cultivation.

Class VIII soils and landforms have limitations that nearly preclude their use for commercial crop production.

CAPABILITY SUBCLASSES are soil groups within one class; they are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is too cold or too dry.

In class I there are no subclasses because the soils of this class have few limitations. Class V contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class V are subject to little or no erosion, though they have other limitations that restrict their use to pasture, rangeland, woodland, wildlife habitat, or recreation.

The capability subclass is identified in the description of each soil mapping unit in the section "Soil Maps for Detailed Planning."

Woodland Management and Productivity

By H. FORD FALLIN, woodland conservationist, Soil Conservation Service.

Originally Iberville Parish was mainly covered with mixed hardwood forests. Southern hardwood trees still cover about 279,300 acres, or 70 percent of the parish. Most of this acreage occupies areas that are subject to flooding. It includes about 120,000 acres in the Atchafalaya Basin Floodway. Most of the remaining 159,300 acres of woodland is on flooded clayey soils at low elevations throughout the parish outside the floodway.

Some good stands of commercial trees are produced in the woodlands of the parish. The potential value of the wood products is substantial, but under present conditions, much of the area is far below its potential. Other values include wildlife, recreation, natural beauty, and conservation of soil and water. Also, some of these forested areas are used for commercial crawfishing.

Table 7 contains information useful to woodland owners or forest managers planning use of soils for wood crops. Mapping unit symbols for soils suitable for wood crops are listed, and the ordination (woodland suitability) symbol for each soil is given. All soils bearing the same ordination symbol require the same general kinds of woodland management and have about the same potential productivity.

The first part of the *ordination symbol*, a number, indicates the potential productivity of the soils for important trees. The number 1 indicates very high productivity; 2, high; 3, moderately high; 4, moderate; and 5, low. The second part of the symbol, a letter, indicates the major kind of soil limitation. The letter *x* indicates stoniness or rockiness; *w*, excessive water in or on the soil; *t*, toxic substances in the soil; *d*, restricted root depth; *c*, clay in the upper part of the soil; *s*, sandy texture; *f*, high content of coarse fragments in the soil profile; and *r*, steep slopes. The letter *o* indicates insignificant limitations or restrictions. If a soil has more than one limitation, priority in placing the soil into a limitation class is in the following order: x, w, t, d, c, s, f, and r.

In table 7 the soils are also rated for a number of factors to be considered in management. *Slight*, *moderate*, and *severe* are used to indicate the degree of major soil limitations.

Ratings of the *erosion hazard* indicate the risk of loss of soil in well-managed woodland. The risk is *slight* if the expected soil loss is small, *moderate* if some measures are needed to control erosion during logging and road construction, and *severe* if intensive management or special equipment and methods are needed to prevent excessive loss of soil.

Ratings of *equipment limitation* reflect the characteristics and conditions of the soil that restrict use of the equipment generally needed in woodland management or harvesting. A rating of *slight* indicates that use of equipment is not limited to a particular kind of equipment or time of year; *moderate* indicates a short seasonal limitation or a need for some modification in management or equipment; *severe* indicates a seasonal limitation, a need for special equipment or management, or a hazard in the use of equipment.

Seedling mortality ratings indicate the degree that the soil affects expected mortality of planted tree seedlings when plant competition is not a limiting factor. Seedlings from good planting stock that are properly planted during a period of sufficient rainfall are rated. A rating of *slight* indicates that the expected mortality of the planted seedlings is less than 25 percent; *moderate*, 25 to 50 percent; and *severe*, more than 50 percent.

The *potential productivity* of merchantable or *important trees* on a soil is expressed as a *site index*. This index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Important trees are those that woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

Trees to plant are those that are suitable for commercial wood production and that are suited to the soils.

Engineering

This section provides information about the use of soils for building sites, sanitary facilities, construction material, and water management. Among those who can benefit from this section are engineers, landowners, community planners, town and city managers, land developers, builders, contractors, and farmers and ranchers.

The ratings in the engineering tables are based on test data and estimated data in the "Soil Properties" section. The ratings were determined jointly by soil scientists and engineers of the Soil Conservation Service using known relationships between the soil properties and the behavior of soils in various engineering uses.

Among the soil properties and site conditions identified by a soil survey and used in determining the ratings in this section were grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock that is within 5 or 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure or aggregation, in-place soil density, and geologic origin of the soil material. Where pertinent, data about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kind of absorbed cations were also considered.

On the basis of information assembled about soil properties, ranges of values can be estimated for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, shear strength, compressibility, slope stability, and other factors of expected soil behavior in engineering uses. As appropriate, these values can be applied to each major horizon of each soil or to the entire profile.

These factors of soil behavior affect construction and maintenance of roads, airport runways, pipelines, foundations for small buildings, ponds and small dams, irrigation projects, drainage systems, sewage and refuse disposal systems, and other engineering works. The ranges of values can be used to: (1) select potential residential, commercial, industrial, and recreational uses; (2) make preliminary estimates pertinent to construction in a particular area; (3) evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; (4) evaluate alternative sites for location of sanitary landfills, onsite sewage disposal systems, and other waste disposal facilities; (5) plan detailed onsite investigations of soils

and geology; (6) find sources of gravel, sand, clay, and topsoil; (7) plan farm drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; (8) relate performance of structures already built to the properties of the kinds of soil on which they are built so that performance of similar structures on the same or a similar soil in other locations can be predicted; and (9) predict the trafficability of soils for cross-country movement of vehicles and construction equipment.

Data presented in this section are useful for land-use planning and for choosing alternative practices or general designs that will overcome unfavorable soil properties and minimize soil-related failures. Limitations to the use of these data, however, should be well understood. First, the data are generally not presented for soil material below a depth of 5 or 6 feet. Also, because of the scale of the detailed map in this soil survey, small areas of soils that differ from the dominant soil may be included in mapping. Thus, these data do not eliminate the need for onsite investigations, testing, and analysis by personnel having expertise in the specific use contemplated.

The information is presented mainly in tables. Table 8 shows, for each kind of soil, the degree and kind of limitations for building site development; table 9, for sanitary facilities; and table 11, for water management. Table 10 shows the suitability of each kind of soil as a source of construction materials.

The information in the tables, along with the soil map, the soil descriptions, and other data provided in this survey can be used to make additional interpretations and to construct interpretive maps for specific uses of land.

Some of the terms used in this soil survey have a special meaning in soil science. Many of these terms are defined in the Glossary.

Building Site Development

The degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, and local roads and streets are indicated in table 8. A *slight* limitation indicates that soil properties are favorable for the specified use; any limitation is minor and easily overcome. A *moderate* limitation indicates that soil properties and site features are unfavorable for the specified use, but the limitations can be overcome or minimized by special planning and design. A *severe* limitation indicates one or more soil properties or site features are so unfavorable or difficult to overcome that a major increase in construction effort, special design, or intensive maintenance is required. For some soils rated severe, such costly measures may not be feasible.

Shallow excavations are used for pipelines, sewerlines, telephone and power transmission lines, basements, open ditches, and cemeteries. Such digging or trenching is influenced by the soil wetness of a high seasonal water table, the texture and consistence of soils; the tendency of soils to cave in or slough; and the presence of very firm, dense soil layers. In addition, excavations are affected by the probability of flooding. Ratings do not apply to soil horizons below a depth of 6 feet unless otherwise noted.

In the soil series descriptions, the consistence of each soil horizon is defined, and the presence of very firm or extremely firm horizons, usually difficult to excavate, is indicated.

Dwellings and *small commercial buildings* referred to in table 8 are built on undisturbed soil and have foundation loads of a dwelling no more than three stories high. Separate ratings are made for small commercial buildings without basements and for dwellings with and without basements. For such structures, soils should be sufficiently stable that cracking or subsidence from settling or shear failure of the foundation does not occur. These ratings were determined from estimates of the shear strength, compressibility, and shrink-swell potential of the soil. Soil texture, plasticity and in-place density, soil wetness, and depth to a seasonal high water table were also considered. Soil wetness and depth to a seasonal high water table indicate potential difficulty in providing adequate drainage for basements, lawns, and gardens. Susceptibility to flooding is a serious limitation.

Local roads and streets referred to in table 8 have an all-weather surface that can carry light to medium traffic all year. They consist of subgrade of the underlying soil material; a base of gravel, crushed rock fragments, or soil material stabilized with lime or cement; and a flexible or rigid surface, commonly asphalt or concrete. The roads are graded with soil material at hand, and most cuts and fills are less than 6 feet deep.

The load supporting capacity and the stability of the soil as well as the quantity and workability of fill material available are important in design and construction of roads and streets. The classifications of the soil and the soil texture, density, and shrink-swell potential are indicators of the traffic supporting capacity used in making the ratings. Soil wetness and flooding, which affect stability and ease of excavation, were also considered.

Sanitary Facilities

Favorable soil properties and site features are needed for proper functioning of septic tank absorption fields, sewage lagoons, and sanitary landfills. The nature of the soil is important in selecting sites for these facilities and in identifying limiting soil properties and site features to be considered in design and installation. Also, those soil properties that affect ease of excavation or installation of these facilities will be of interest to contractors and local officials. Table 9 shows the degree and kind of limitations of each soil for such uses and for use of the soil as daily cover for landfills. It is important to observe local ordinances and regulations.

If the degree of soil limitation is expressed as *slight*, soils are generally favorable for the specified use and

limitations are minor and easily overcome; if *moderate*, soil properties or site features are unfavorable for the specified use, but limitations can be overcome by special planning and design; and if *severe*, soil properties or site features are so unfavorable or difficult to overcome that major soil reclamation, special designs, or intensive maintenance is required.

Septic tank absorption fields are subsurface systems of tile or perforated pipe that distribute effluent from a septic tank into the natural soil. Only the soil horizons between depths of 18 and 72 inches are evaluated for this use. The soil properties and site features considered are those that affect the absorption of the effluent and those that affect the construction of the system.

Properties and features that affect absorption of the effluent are permeability, depth to seasonal high water table, and susceptibility to flooding.

On many of the soils that have moderate or severe limitations for use as septic tank absorption fields, a system to lower the seasonal water table could be installed or the size of the absorption field could be increased so that performance is satisfactory.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons have a nearly level floor and cut slopes or embankments of compacted soil material. Aerobic lagoons generally are designed to hold sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Soils that are very high in organic matter are not suitable. Unless the soil has very slow permeability, contamination of ground water is a hazard where the seasonal high water table is above the level of the lagoon floor. In soils where the water table is seasonally high, seepage of ground water into the lagoon can seriously reduce the lagoon's capacity for liquid waste. Susceptibility to flooding also affects the suitability of sites for sewage lagoons or the cost of construction. Shear strength and permeability of compacted soils affect the performance of embankments.

Sanitary landfill is a method of disposing of solid waste by placing refuse in successive layers either in excavated trenches or on the surface of the soil. The waste is spread, compacted, and covered daily with thin layers of soil. Landfill areas are subject to heavy vehicular traffic. Risk of polluting ground water and trafficability affect the suitability of a soil for this use. The best soils have a loamy or silty texture, have moderate to slow permeability, are deep to a seasonal water table, and are not subject to flooding. Clayey soils are likely to be sticky and difficult to spread. Sandy or gravelly soils generally have rapid permeability, which might allow noxious liquids to contaminate ground water. Soil wetness may be a limitation because operating heavy equipment on a wet soil is difficult. Seepage into the refuse increases the risk of pollution of ground water.

In the trench type of landfill, ease of excavation also affects the suitability of a soil for this purpose, so the soil must be deep to bedrock and free of large stones and boulders. Where the seasonal water table is high, water seeps into trenches and causes problems in filling.

Unless otherwise stated, the limitations in table 9 apply only to the soil material within a depth of about 6 feet. If the trench is deeper, a limitation of slight or moderate may not be valid. Site investigation is needed before a site is selected.

Daily cover for landfill should be soil that is easy to excavate and spread over the compacted fill in wet and dry weather. Soils that are loamy or silty and free of stones or boulders are better than other soils. Clayey soils may be sticky and difficult to spread; sandy soils may be subject to soil blowing.

The soils selected for final cover of landfills should be suitable for growing plants. Of all the horizons, the A horizon in most soils has the best workability, more organic matter, and the best potential for growing plants. Thus, for either the area- or trench-type landfill, stockpiling material from the A horizon for use as the surface layer of the final cover is desirable.

Where it is necessary to bring in soil material for daily or final cover, thickness of suitable soil material available and depth to a seasonal high water table in soils surrounding the sites should be evaluated. Other factors to be evaluated are those that affect reclamation of the borrow areas. These factors include slope, erodibility, and potential for plant growth.

Construction Materials

The suitability of each soil as a source of roadfill, sand, gravel, and topsoil is indicated in table 10 by ratings of good, fair, or poor. The texture, thickness, and organic-matter content of each soil horizon are important factors in rating soils for use as construction materials. Each soil is evaluated to the depth observed, generally about 6 feet.

Roadfill is soil material used in embankments for roads. Soils are evaluated as a source of roadfill for low embankments, which generally are less than 6 feet high and less exacting in design than high embankments. The ratings reflect the ease of excavating and working the material and the expected performance of the material where it has been compacted and adequately drained. The performance of soil after it is stabilized with lime or cement is not considered in the ratings, but information about some of the soil properties that influence such performance is given in the descriptions of the soil series.

The ratings apply to the soil material between the A horizon and a depth of 5 to 6 feet. It is assumed that soil horizons will be mixed during excavation and spreading. Many soils have horizons of contrasting suitability within their profile. The estimated engineering properties in table 15 provide specific information about the nature of each horizon. This information can help determine the suitability of each horizon for roadfill.

Soils rated *good* are coarse grained. They have low shrink-swell potential. They are at least moderately well

drained. Soils rated *fair* have a plasticity index of less than 15 and have other limiting features, such as moderate shrink-swell potential or wetness.

Sand and *gravel* are used in great quantities in many kinds of construction. Fine-grained soils are not suitable sources of sand and gravel; therefore, all soils in Iberville Parish were rated unsuited for this purpose.

Topsoil is used in areas where vegetation is to be established and maintained. Suitability is affected mainly by the ease of working and spreading the soil material in preparing a seedbed and by the ability of the soil material to support plantlife. Also considered is the damage that can result at the area from which the topsoil is taken.

The ease of excavation is influenced by the thickness of suitable material, wetness, slopes, and amount of stones. The ability of the soil to support plantlife is determined by texture, structure, and the amount of soluble salts or toxic substances. Organic matter in the A1 or Ap horizon greatly increases the absorption and retention of moisture and nutrients. Therefore, the soil material from these horizons should be carefully preserved for later use.

Soils rated *good* have at least 16 inches of friable loamy material at their surface. They are low in soluble salts that can limit or prevent plant growth. They are naturally fertile or respond well to fertilizer. They are not so wet that excavation is difficult during most of the year.

Soils rated *fair* are firm loamy soils that have appreciable amounts of clay.

Soils rated *poor* are very firm clayey soils, soils having excess humus, and poorly drained soils.

Water Management

Many soil properties and site features that affect water management practices have been identified in this soil survey. In table 11 the soil and site features that affect use are indicated for each kind of soil. This information is significant in planning, installing, and maintaining water control structures.

Soil and site limitations are expressed as slight, moderate, and severe. *Slight* means that the soil properties and site features are generally favorable for the specified use and that any limitation is minor and easily overcome. *Moderate* means that some soil properties or site features are unfavorable for the specified use but can be overcome or modified by special planning and design. *Severe* means that the soil properties and site features are so unfavorable and so difficult to correct or overcome that major soil reclamation, special design, or intensive maintenance is required.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have a low seepage potential, which is determined by permeability and the depth to fractured or permeable bedrock or other permeable material.

Embankments, dikes, and levees require soil material that is resistant to seepage, erosion, and piping and has favorable stability, shrink-swell potential, shear strength, and compaction characteristics. Large stones and organic matter in a soil downgrade the suitability of a soil for use in embankments, dikes, and levees.

Drainage of soil is affected by such soil properties as permeability, texture, depth to layers that affect the rate of water movement, depth to the water table, slope, stability of ditchbanks, susceptibility to flooding, salinity and alkalinity, and availability of outlets for drainage.

Irrigation is affected by such features as slope, susceptibility to flooding, hazards of water erosion and soil blowing, texture, presence of salts and alkali, depth of root zone, rate of water intake at the surface, permeability of the soil below the surface layer, available water capacity, need for drainage, and depth to the water table.

Grassed waterways are constructed to channel runoff to outlets at a nonerosive velocity. Features that affect the use of soils for waterways are slope, permeability, erodibility, wetness, and suitability for permanent vegetation.

Recreation

The soils of the survey area are rated in table 12 according to limitations that affect their suitability for recreation uses. The ratings are based on such restrictive soil features as flooding, wetness, slope, and texture of the surface layer. Not considered in these ratings, but important in evaluating a site, are location and accessibility of the area, size and shape of the area and its scenic quality, the ability of the soil to support vegetation, access to water, potential water impoundment sites available, and either access to public sewerlines or capacity of the soil to absorb septic tank effluent. Soils subject to flooding are limited, in varying degree, for recreation use by the duration and intensity of flooding and the season when flooding occurs. Onsite assessment of height, duration, intensity, and frequency of flooding is essential in planning recreation facilities.

The degree of the limitation of the soils is expressed as slight, moderate, or severe. *Slight* means that the soil properties are generally favorable and that the limitations are minor and easily overcome. *Moderate* means that the limitations can be overcome or alleviated by planning, design, or special maintenance. *Severe* means that soil properties are unfavorable and that limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use, or by a combination of these measures.

The information in table 12 can be supplemented by information in other parts of this survey. Especially helpful are interpretations for septic tank absorption fields, given in table 9, and interpretations for dwellings without basements and for local roads and streets, given in table 8.

Camp areas require such site preparation as shaping and leveling for tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The best soils for this use have mild slopes and are not wet or subject to

flooding during the period of use. The surface absorbs rainfall readily but remains firm.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for use as picnic areas are firm when wet, and are not subject to flooding during the period of use.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is firm after rains.

Paths and trails for walking, horseback riding, bicycling, and other uses should require little or no cutting and filling. The best soils for this use are those that are not wet, are firm after rains, and are not subject to flooding more than once during the annual period of use.

Wildlife Habitat

By RAY SMITH, JR., biologist, Soil Conservation Service.

Wildlife plays an important part in the economy and environment of Iberville Parish. Wildlife in the area is highly varied and, in some areas, very abundant. The open agricultural land of Iberville Parish is the habitat for such species as cottontail rabbit, quail, doves, wintering waterfowl, nutria, snipe, meadowlarks, vesper sparrows, lark sparrows, killdeer, and many other nongame animals and birds. These animals and birds have varying levels of population density, depending on the season and habitat conditions. Crawfish are an important economic crop in cultivated crawfish fields or if harvested from the wild in the Atchafalaya Basin Floodway. There are 975 acres devoted to the commercial production of crawfish in this parish.

Fish are present in private ponds, rivers, lakes, and bayous of this parish in moderately high to low populations. They are represented by such species as largemouth bass, crappie, sunfish, buffalo, catfish, gar, bowfin, and others. There are approximately 6,000 acres of this water within the agricultural area of this parish.

The 159,300 acres of woodland within the agricultural area contains such animals as deer, squirrel (gray and fox), swamp rabbits, raccoon, opossum, fox, and many forms of nongame birds, reptiles, and amphibians.

The land in the Atchafalaya Basin Floodway is mostly swamp with fairly large acreages of open water. This area has high to moderate populations of such creatures as deer, squirrel (gray and fox), swamp rabbits, mink, otter, nutria, raccoon, opossum, woodcock, turkeys, wading birds (ibis, egrets, and herons), songbirds and other nongame birds, reptiles, amphibians, and during the winter, wood ducks and wintering ducks. Several large breeding colonies of ibis, herons, and egrets are generally present during the spring and summer months.

Within the floodway are large areas of water that have moderate to low populations of fish, such as largemouth, white, and yellow bass, crappies, sunfish, mullet, shad, bowfin, gar, buffalo, catfish, paddlefish, and others. The fish populations of this area are generally low because of the high turbidity of these waters. Commercial fishermen take many tons of the coarse fish, for example, gar, carp, buffalo, and catfish, from the waters of this area annually. Many tons of crawfish are also removed by commercial fishermen during the late winter and early spring.

This area is thought to be the habitat for many of our threatened species of wildlife, such as the bald eagle, osprey, wood ibis, southern panther, ivory billed woodpecker, grooved bill ani, and Bachman's warbler. The American alligator is also found here and maintains a moderate population within this area.

Wildlife

Soils directly affect the kind and amount of vegetation that is available to wildlife as food and cover, and they affect the construction of water impoundments. The kind and abundance of wildlife that populate an area depend largely on the amount and distribution of food, cover, and water. If any one of these elements is missing, inadequate, or inaccessible, wildlife either are scarce or do not inhabit the area. A list of native plants on selected soils in wetlands is given in table 13.

If the soils have the potential, wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by helping the natural establishment of desirable plants.

In table 14, the soils in the survey area are rated according to their potential to support the main kinds of wildlife habitat in the area. This information can be used in planning for parks, wildlife refuges, nature study areas, and other developments for wildlife; selecting areas that are suitable for wildlife; selecting soils that are suitable for creating, improving, or maintaining specific elements of wildlife habitat; and determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* means that the element of wildlife habitat or the kind of habitat is easily created, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected if the soil is used for the designated purpose. A rating of *fair* means that the element of wildlife habitat or kind of habitat can be created, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* means that limitations are severe for the designated element or kind of wildlife habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* means that restrictions for the element of wildlife habitat or kind of wildlife are very severe, and that unsatisfactory results can be expected. Wildlife habitat is impractical or even impossible to create, improve, or maintain on soils having such a rating.

The elements of wildlife habitat are briefly described in the following paragraphs.

Grain and seed crops are seed-producing annuals used by wildlife. Examples are corn, grain sorghum, wheat, oats, millet, cowpeas, soybeans, and sunflowers. The major soil properties that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, and flood hazard. Soil temperature and soil moisture are also considerations.

Grasses and legumes are domestic perennial grasses and herbaceous legumes that are planted for wildlife food and cover. Examples are fescue, ryegrass, clover, and vetch. Major soil properties that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, and flood hazard. Soil temperature and soil moisture are also considerations.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds, that provide food and cover for wildlife. Examples are bluestem, panicum and paspalum grasses, fescue, and switchgrass. Major soil properties that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, and flood hazard. Soil temperature and soil moisture are also considerations.

Hardwood trees and the associated woody understory provide cover for wildlife and produce nuts or other fruit, buds, catkins, twigs, bark, or foliage that wildlife eat. Examples of native plants are oak, wild plum, sweetgum, hawthorn, dogwood, persimmon, sassafras, sumac, water hickory, pecan, elm, blackberry, grape, wax myrtle, and greenbrier. Examples of fruit-producing shrubs that are commercially available and suitable for planting on soils rated good are shrub lespedeza, autumn-olive, and crabapple. Major soil properties that affect growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites, exclusive of submerged or floating aquatics. They produce food or cover for wildlife that use wetland as habitat. Examples of wetland plants are smartweed, fall panicum, horned beak rush, spikerushes, cattail, and sedges. Major soil properties affecting wetland plants are texture of the surface layer and wetness.

Shallow water areas are bodies of water that have an average depth of less than 5 feet and that are useful to wildlife. They can be naturally wet areas, or they can be created by dams or levees or by water-control devices in marshes or streams. Examples are crawfish fields, waterfowl feeding areas, wildlife watering developments, and other wildlife ponds. Major soil properties affecting shallow water areas are wetness and permeability. The availability of a dependable water supply is important if water areas are to be developed.

The kinds of wildlife habitat are briefly described in the following paragraphs.

Openland habitat consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The kinds of wildlife attracted to these areas include bobwhite quail, dove, robin, meadowlark, field sparrow, killdeer, cottontail rabbit, and red fox.

Woodland habitat consists of areas of hardwoods and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, woodcock, woodpeckers, squirrels, fox, raccoon, deer, and bear.

Wetland habitat consists of open, marshy or swampy, shallow-water areas where water-tolerant plants grow. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, rails, kingfishers, mink, and nutria.

Soil Properties

Extensive data about soil properties are summarized on the following pages. The two main sources of these data are the many thousands of soil borings made during the course of the survey and the laboratory analyses of selected soil samples from typical profiles.

In making soil borings during field mapping, soil scientists can identify several important soil properties. They note the seasonal soil moisture condition or the presence of free water and its depth. For each horizon in the profile, they note the thickness and color of the soil material; the texture, or amount of clay, silt, and sand; the structure, or the natural pattern of cracks and pores in the undisturbed soil; and the consistence of the soil material in place under the existing soil moisture conditions. They record the depth of plant roots, determine the pH or reaction of the soil, and identify any free carbonates.

Samples of soil material are analyzed in the laboratory to verify the field estimates of soil properties and to determine all major properties of key soils, especially properties that cannot be estimated accurately by field observation. Laboratory analyses are not conducted for all soil series in the survey area, but laboratory data for many soil series not tested are available from nearby survey areas.

The available field and laboratory data are summarized in tables. The tables give the estimated range of engineering properties, the engineering classification, and the physical and chemical properties of each major horizon of each soil in the survey area.

Engineering Properties

Table 15 gives estimates of engineering properties and classifications for the major horizons of each soil in the survey area.

Most soils have, within the upper 5 or 6 feet, horizons of contrasting properties. Table 15 gives information for each of these contrasting horizons in a typical profile. *Depth* to the upper and lower boundaries of each horizon is indicated. More information about the range in depth and about other properties in each horizon is given for each soil series in the section "Soil Series and Morphology."

Texture is described in table 15 in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in soil material that is less than 2 millimeters in diameter. "Loam," for example, is soil material that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If a soil contains gravel or other particles coarser than sand, an appropriate modifier is added, for example, "gravelly loam." Other texture terms are defined in the Glossary.

The two systems commonly used in classifying soils for engineering use are the Unified Soil Classification System (Unified) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO).

The *Unified* system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter, plasticity index, liquid limit, and organic-matter content. Soils are grouped into 15 classes—eight classes of coarse-grained soils, identified as GW, GP, GM, GC, SW, SP, SM, and SC; six classes of fine-grained soils, identified as ML, CL, OL, MH, CH, and OH; and one class of highly organic soils, identified as Pt. Soils on the borderline between two classes have a dual classification symbol, for example, CL-ML.

The *AASHTO* system classifies soils according to those properties that affect their use in highway construction and maintenance. In this system a mineral soil is classified in one of seven basic groups ranging from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines. At the other extreme, in group A-7, are fine-grained soils. Highly organic soils are classified in group A-8 on the basis of visual inspection.

Percentage of the soil material less than 3 inches in diameter that passes each of four sieves (U.S. standard) is estimated for each major horizon. The estimates are based on tests of soils that were sampled in the survey area and in nearby areas and on field estimates from many borings made during the survey.

Liquid limit and *plasticity index* indicate the effect of water on the strength and consistence of soil. These indexes are used in both the Unified and AASHTO soil classification systems. They are also used as indicators in making general predictions of soil behavior. Ranges in liquid limit and plasticity index are estimated on the basis of test data from the survey area or from nearby areas and on observations of the many soil borings made during the survey.

In some surveys, the estimates are rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterburg limits extend a marginal amount across classification boundaries (1 or 2 percent), the classification in the marginal zone is omitted in table 15.

Physical and Chemical Properties

Table 16 shows estimated values for several soil characteristics and features that affect behavior of soils in engineering uses. These estimates are given for each major horizon, at the depths indicated, in the typical pedon of each soil. The estimates are based on field observations and on test data for these and similar soils.

Permeability is estimated on the basis of known relationships among the soil characteristics observed in the field—particularly soil structure, porosity, and gradation or texture—that influence the downward movement of water in the soil. The estimates are for vertical water movement when the soil is saturated. Not considered in the estimates is lateral seepage or such transient soil features as plowpans and surface crusts. Permeability of the soil is an important factor to be considered in planning and designing drainage systems, in evaluating the potential of soils for septic tank systems and other waste disposal systems, and in many other aspects of land use and management.

Available water capacity is rated on the basis of soil characteristics that influence the ability of the soil to hold water and make it available to plants. Important characteristics are content of organic matter, soil texture, and soil structure. Shallow-rooted plants are not likely to use the available water from the deeper soil horizons. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design of irrigation systems.

Soil reaction is expressed as range in pH values. The range in pH of each major horizon is based on many field checks. For many soils, the values have been verified by laboratory analyses. Soil reaction is important in selecting the crops, ornamental plants, or other plants to be grown; in evaluating soil amendments for fertility and stabilization; and in evaluating the corrosivity of soils.

Shrink-swell potential depends mainly on the amount and kind of clay in the soil. Laboratory measurements of the swelling of undisturbed clods were made for many soils. For others the swelling was estimated on the basis of the kind and amount of clay in the soil and on measurements of similar soils. The size of the load and the magnitude of the change in soil moisture content also influence the swelling of soils. Shrinking and swelling of some soils can cause damage to building foundations, roads, and other structures unless special designs are used. A high shrink-swell potential indicates that special design and added expense may be required if the planned use of the soil will not tolerate large volume changes.

Risk of corrosion pertains to potential soil-induced chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to soil moisture, particle-size distribution, total acidity, and electrical conductivity of the soil material. The rate of corrosion of concrete is based mainly on the sulfate content, texture, and acidity of the soil. Protective measures for steel or more resistant concrete help to avoid or minimize damage resulting from the corrosion. Uncoated steel intersecting soil boundaries or soil horizons is more susceptible to corrosion than an installation that is entirely within one kind of soil or within one soil horizon.

Soil Series and Morphology

In this section, each soil series recognized in the survey area is described in detail. The descriptions are arranged in alphabetic order by series name.

Characteristics of the soil and the material in which it formed are discussed for each series. The soil is then compared to similar soils and to nearby soils of other series. Then a pedon, a small three-dimensional area of soil typical of the soil series in the survey area, is described. The detailed descriptions of each soil horizon follow standards in the Soil Survey Manual (*10*). Unless otherwise noted, colors described are for moist soil.

Following the pedon description is the range of important characteristics of the soil series in this survey area. Phases, or mapping units, of each soil series are described in the section "Soil Maps for Detailed Planning."

Barbary Series

The Barbary series consists of very poorly drained, very slowly permeable soils in the low backswamp around Lake Natchez in the southern part of the parish. They formed in thin muck over clayey alluvium. Slopes are less than 0.2 percent. Elevations range from 0 to about 3 feet above sea level.

Typical pedon of Barbary muck from an area of Barbary association one-half mile north of Lake Natchez, 100 feet west of Choctaw Bayou, SE1/4NW1/4 section 27, T. 11 S., R. 12 E.:

O2—6 inches to 0, dark brown (7.5YR 3/2) muck; massive; nonsticky; common coarse wood fragments and partly decomposed leaves and Spanish moss; about 50 percent organic matter; slightly acid; gradual wavy boundary.

A1g—0 to 6 inches, very dark gray (10YR 3/1) semifluid mucky clay; massive; nonsticky, flows easily between fingers when squeezed; common coarse fragments of partly decomposed wood; about 15 percent organic matter; neutral; gradual smooth boundary.

C1g—6 to 28 inches, dark gray (10YR 4/1) semifluid clay; massive; slightly sticky, flows easily between fingers when squeezed; common coarse fragments of partly decomposed wood; mildly alkaline; clear smooth boundary.

C2g—28 to 52 inches, gray (5Y 5/1) semifluid clay; massive; sticky, flows easily between fingers when squeezed; many logs, common coarse fragments of partly decomposed wood; moderately alkaline; clear smooth boundary.

C3g—52 to 60 inches, dark gray (5Y 4/1) semifluid clay; massive; slightly sticky, flows with moderate difficulty between fingers when squeezed; moderately alkaline.

Depth to firm layers is commonly greater than 60 inches. Woody fragments, buried logs, and stumps are typical in the C horizon. Reaction ranges from slightly acid to mildly alkaline in the O2 and A horizons and is mildly alkaline or moderately alkaline in the C horizon.

The O2 horizon is very dark gray, dark gray, dark brown, very dark grayish brown, or black muck or peat. The A horizon is very dark gray, dark gray, or dark grayish brown. It is clay or mucky clay. The C horizon is gray, dark gray, dark greenish gray, or greenish gray semifluid clay.

Barbary soils are associated with Fausse and Sharkey soils. Barbary soils do not develop cracks as do Sharkey soils. They lack the firm B and C horizons typical of the Fausse and Sharkey soils.

Commerce Series

The Commerce series consists of somewhat poorly drained, moderately slowly permeable soils on the high and intermediate parts of the natural levees of the Mississippi River and its distributaries. They formed in loamy alluvium. Slopes are less than 1 percent. Typically, these soils occur at elevations 15 feet or more above sea level, but elevations range to below 10 feet in the southern part of the parish.

Typical pedon of Commerce silt loam 4 miles southeast of Plaquemine, 100 feet southwest of farm road, southwest corner of Spanish Land Grant section 41, T. 10 S., R. 13 E.:

Ap1—0 to 6 inches, dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; few fine roots; slightly acid; clear smooth boundary.

Ap2—6 to 11 inches, dark grayish brown (10YR 4/2) silt loam; moderate medium subangular blocky structure; friable; few fine roots; neutral; abrupt smooth boundary.

B2—11 to 20 inches, grayish brown (10YR 5/2) silty clay loam; common medium distinct dark yellowish brown (10YR 4/4) mottles; moderate medium subangular blocky structure; firm; neutral; clear smooth boundary.

B3—20 to 29 inches, grayish brown (10YR 5/2) silty clay loam; common medium distinct dark brown (7.5YR 4/4) mottles; moderate medium subangular blocky structure; firm; mildly alkaline; clear smooth boundary.

C1—29 to 39 inches, grayish brown (10YR 5/2) silt loam; common medium distinct dark brown (7.5YR 4/4) mottles; weak medium subangular blocky structure; friable; moderately alkaline; clear smooth boundary.

C2—39 to 60 inches, grayish brown (10YR 5/2) silt loam; common coarse distinct dark brown (7.5YR 4/4) mottles; massive; moderately alkaline.

The solum ranges from 26 to 40 inches in thickness. Depth to clayey layers, where present, is typically greater than 50 inches. Reaction ranges from medium acid through mildly alkaline in the A horizon, from slightly acid through moderately alkaline in the B horizon, and neutral through moderately alkaline in the C horizon.

The A horizon is dark gray, dark grayish brown, or grayish brown. Texture is silt loam or silty clay loam. The B horizon is a grayish brown silt loam or silty clay loam. The C horizon is silt loam, silty clay loam, or very fine sandy loam. It is grayish brown, dark grayish brown, or gray. The B and C horizons are mottled in shades of brown.

Commerce soils are associated with Convent, Vacherie, Sharkey, and Tunica soils. Commerce soils contain more clay than the Convent soils. They contain less clay and are better drained than the Sharkey and Tunica soils. Commerce soils have less clay in the lower horizons than the

Vacherie soils. They have less clay in the upper horizons than the Tunica soils.

Convent Series

The Convent series consists of somewhat poorly drained, moderately permeable soils mostly on the highest parts of the natural levees of the Mississippi River and its distributaries. They formed in loamy alluvium. Slopes range from 0 to 3 percent but are dominantly 0 to 1 percent. Elevations range from 10 to about 30 feet above sea level.

Typical pedon of Convent silt loam 7 miles southeast of Plaquemine, 85 feet west of farm road, southwestern part of Spanish Land Grant section 22, T. 10 S., R. 13 E.:

Ap—0 to 10 inches, dark grayish brown (10YR 4/2) silt loam; weak medium granular structure; very friable; many fine roots; neutral; clear smooth boundary.

C1—10 to 22 inches, grayish brown (10YR 5/2) silt loam; common medium yellowish brown (10YR 5/4) mottles; massive; very friable; common fine roots; moderately alkaline; clear smooth boundary.

C2—22 to 45 inches, grayish brown (10YR 5/2) silt loam; common medium distinct yellowish brown (10YR 5/4) and dark brown (7.5YR 4/4) mottles; massive; friable; prominent bedding planes; few lenses of gray silty clay loam up to 1/2 inch thick; strongly effervescent; moderately alkaline; clear wavy boundary.

C3—45 to 60 inches, grayish brown (10YR 5/2) silt loam; many medium distinct dark yellowish brown (10YR 4/4) mottles; weak thick platy structure; friable; prominent bedding planes; slightly effervescent; moderately alkaline.

Depth to clayey layers, where present, is greater than 40 inches. Carbonates are present in some horizons below 20 inches. Reaction ranges from neutral through moderately alkaline throughout the solum.

The A horizon is dark grayish brown, grayish brown, dark brown, or brown silt loam or very fine sandy loam. The C horizon is dominantly grayish brown or dark grayish brown with mottles in shades of brown and gray. Some pedons have dark reddish gray, dark brown, or pale brown strata that make up as much as 40 percent of the C horizon between the depths of 10 and 40 inches. The C horizon is silt loam or very fine sandy loam. The C horizon of some pedons below a depth of 40 inches is loamy very fine sand or clay.

Convent soils are associated with Commerce, Sharkey, Tunica, Vacherie, and Fausse soils. They have a lower clay content than Commerce, Sharkey, and Fausse soils. Convent soils have less clay in the lower horizons than the Vacherie soils and less clay in the upper horizons than the Tunica soils. They are better drained than the Sharkey, Tunica, Vacherie, and Fausse soils.

Fausse Series

The Fausse series consists of very poorly drained, very slowly permeable soils in backswamps. They formed in clayey alluvium. Slopes are less than 0.5 percent. Typically, these soils occur at elevations less than 10 feet above sea level.

Typical pedon of Fausse clay in an area of Convent and Fausse soils 300 feet west of Bayou des Glaises, 1 1/2 miles north of Interstate-10, NW1/4SW1/4 section 68, T. 8 S., R. 9 E.:

A1—0 to 10 inches, dark gray (10YR 4/1) clay; moderate medium subangular blocky structure; firm, sticky; few fine roots; neutral; clear smooth boundary.

B2g—10 to 30 inches, gray (10YR 5/1) clay; common medium distinct dark brown (7.5YR 4/4) mottles; weak medium subangular blocky structure; sticky; mildly alkaline; clear smooth boundary.

C1g—30 to 44 inches, gray (5Y 5/1) clay; many medium distinct reddish brown (5YR 4/4) mottles; massive; sticky; moderately alkaline; clear smooth boundary.

C2g—44 to 52 inches, gray (N 5/0) clay; common medium distinct reddish brown (5YR 4/4) mottles; massive; firm, sticky; moderately alkaline; clear smooth boundary.

C3g—52 to 60 inches, dark greenish gray (5GY 4/1) clay; common fine distinct olive mottles; massive; sticky; moderately alkaline.

The solum ranges from 25 to 46 inches in thickness. Organic surface horizons, where present, are less than 2 inches thick. Reaction ranges from medium acid through neutral in the A horizon. The B and C horizons range from mildly alkaline through moderately alkaline.

The A horizon is dark gray, dark grayish brown, very dark gray, or very dark grayish brown clay or mucky clay. Where the A horizon is very dark gray and very dark grayish brown it is less than 8 inches thick. The B and C horizons are gray, dark gray, greenish gray, or dark greenish gray with mottles in shades of brown, red, and gray.

Fausse soils are associated with Convent, Sharkey, and Barbary soils. They are more poorly drained and are higher in clay content than the Convent soils. Fausse soils are more poorly drained than the Sharkey soils and do not form cracks to a depth of 20 inches as Sharkey soils do in most years. They are firmer throughout than the Barbary soils.

Sharkey Series

The Sharkey series consists of poorly drained, very slowly permeable soils. They are mostly on the low and intermediate parts of the natural levees of the Mississippi River and its distributaries. They formed in clayey alluvium. Slope gradients range from 0 to 3 percent. Most of these soils occur at elevations ranging from 5 to 20 feet above sea level.

Typical pedon of Sharkey clay 3 miles southwest of Plaquemine, 100 feet east of farm road, west central part of Spanish Land Grant section 13, T. 10 S., R. 12 E.:

Ap1—0 to 4 inches, very dark grayish brown (10YR 3/2) clay; few fine faint dark yellowish brown mottles; moderate fine subangular blocky structure; very firm; neutral; clear smooth boundary.

Ap2—4 to 9 inches, very dark grayish brown (10YR 3/2) clay; few medium faint dark brown (7.5YR 4/4) mottles; moderate medium subangular blocky structure; firm; common fine roots; neutral; clear wavy boundary.

B21g—9 to 24 inches, dark gray (10YR 4/1) clay; common medium distinct dark brown (7.5YR 4/4) mottles; moderate medium subangular blocky structure; firm, sticky; few fine roots; mildly alkaline; clear smooth boundary.

B22g—24 to 36 inches, gray (5Y 5/1) clay; common medium faint dark yellowish brown (10YR 4/4) mottles; moderate medium subangular blocky structure; firm, very sticky; few fine roots; pressure faces on some peds; mildly alkaline; clear smooth boundary.

B3g—36 to 44 inches, gray (5Y 5/1) clay; common medium distinct dark brown (7.5YR 4/4) mottles; weak medium subangular blocky structure; firm; very sticky; pressure faces on peds; few fine soft calcium carbonate nodules; moderately alkaline.

The solum ranges from 36 to 60 inches in thickness. Reaction ranges from medium acid through mildly alkaline in the A horizon. The B horizon is slightly acid through moderately alkaline, and the C horizon ranges from neutral through moderately alkaline.

The A horizon is dark gray, dark grayish brown, very dark gray, or very dark grayish brown. The A horizon with colors of very dark gray and very dark grayish brown is less than 10 inches thick. Mottles are in shades of brown. Texture is clay or silty clay loam. The B horizon is dark gray, gray, or olive gray mottled in shades of brown.

Sharkey soils are associated with Barbary, Convent, Commerce, Fausse, Tunica, and Vacherie soils. Sharkey soils are more poorly drained and have a higher clay content than the Convent and Commerce soils. They differ from the Fausse and Barbary soils in having better drainage and in forming cracks to a depth of 20 inches or more in most years. Sharkey soils have a higher clay content in the A and upper B horizons than the Vacherie soils. They are clay in the lower part of the profile, whereas Tunica soils are loamy.

Tunica Series

The Tunica series consists of poorly drained, very slowly permeable soils. They are on the lower and intermediate parts of the natural levees of the Mississippi River and its distributaries. They formed in clayey over loamy alluvium. Slopes are less than 1 percent. These soils occur mostly at elevations between 10 and 15 feet above sea level.

Typical pedon of Tunica clay 0.8 mile northwest of Ascension Parish line, 950 feet east of La. 1, southwest part of Spanish Land Grant section 91, T. 11 S., R. 13 E.:

Ap—0 to 7 inches, very dark grayish brown (10YR 3/2) clay; few fine faint dark yellowish brown mottles; moderate medium subangular blocky structure; firm; common fine roots; neutral; abrupt smooth boundary.

B21g—7 to 17 inches, dark gray (10YR 4/1) clay; common fine faint dark yellowish brown mottles; moderate medium subangular blocky structure; firm, sticky; common fine roots; neutral; clear smooth boundary.

B22g—17 to 25 inches, dark gray (10YR 4/1) clay; many medium faint dark yellowish brown (10YR 4/4) mottles; moderate medium subangular blocky structure; firm, sticky; few fine roots; mildly alkaline, gradual boundary.

IIC1—25 to 51 inches, grayish brown (10YR 5/2) silt loam; many medium distinct yellowish brown (10YR 5/4) mottles; weak medium subangular blocky structure; friable; few fine roots; mildly alkaline; clear smooth boundary.

IIC2—51 to 60 inches, grayish brown (10YR 5/2) silt loam; common medium distinct yellowish brown (10YR 5/4) and common medium faint gray (10YR 5/1) mottles; massive; friable; mildly alkaline.

The solum ranges from 20 to 33 inches in thickness. Depth to loamy layers is 20 to 33 inches. Reaction ranges from slightly acid through mildly alkaline in the solum and neutral to mildly alkaline in the IIC horizon. The A horizon is dark grayish brown, dark gray, and very dark grayish brown. The very dark grayish brown A horizon is less than 6 inches thick. The B horizon is gray or dark gray clay or silty clay. The IIC horizon is gray, dark gray, dark grayish brown, and grayish brown silt loam, very fine sandy loam, or silty clay loam. The solum and IIC horizons are mottled in shades of brown.

Tunica soils are associated with the Convent, Commerce, Sharkey, and Vacherie soils. They are finer textured in the upper layers than Vacherie, Commerce, and Convent soils. They have loamy lower layers instead of the clayey layers typical of the Sharkey soils.

Vacherie Series

The Vacherie series consists of somewhat poorly drained, very slowly permeable soils. They are on the intermediate parts of the natural levees of the Mississippi River and its distributaries. They formed in loamy alluvium over clayey alluvium. Slopes are less than 1 percent. Elevations range from 10 to about 20 feet above sea level.

Typical pedon of Vacherie silt loam 1.6 miles east northeast of Carville Post Office, 800 feet west of Geismar Plant, east central part of Spanish Land Grant section 70, T. 9 S., R. 1 E.:

Ap1—0 to 7 inches, dark gray (10YR 4/1) silt loam; moderate fine subangular blocky structure; friable; many fine roots; mildly alkaline; clear smooth boundary.

Ap2—7 to 14 inches, dark grayish brown (10YR 4/2) silt loam; common coarse distinct dark brown (7.5YR 4/4) stains on faces of peds; weak medium subangular blocky structure; friable; many fine roots; mildly alkaline; clear smooth boundary.

B2—14 to 21 inches, grayish brown (10YR 5/2) silt loam; common medium faint dark yellowish brown (10YR 4/4) mottles; weak medium subangular blocky structure; friable; few fine roots; moderately alkaline; clear smooth boundary.

IIB21g—21 to 41 inches, gray (10YR 5/1) clay; common medium distinct dark yellowish brown (10YR 4/4) mottles; weak medium subangular blocky structure; firm; moderately alkaline; clear smooth boundary.

IIIB22g—41 to 53 inches, dark gray (N 4/0) clay; common medium distinct dark brown (7.5YR 4/4) mottles; weak coarse subangular blocky structure; firm; moderately alkaline.

Thickness of the loamy upper part of the solum ranges from 20 to 36 inches. Reaction ranges from slightly acid to moderately alkaline in the A horizon and is mildly alkaline or moderately alkaline below the A horizon.

The A horizon is dark gray, or dark grayish brown mottled in shades of brown. Texture is silt loam or very fine sandy loam. The IIB horizon is dark gray or gray clay or silty clay mottled in shades of brown.

Vacherie soils are associated with Commerce, Convent, and Sharkey soils. They have a higher clay content in the lower horizons than the Commerce and Convent soils. Vacherie soils are better drained and have less clay in the A horizon and upper part of the B horizon than the Sharkey soils.

Formation of the Soils

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In this section, the processes of soil formation are discussed and related to the soils in the survey area.

Processes of Soil Formation

The processes of soil formation are those processes or events occurring in soils that influence the kind and degree of development of soil horizons. The rate and effectiveness of different processes are determined by the factors of soil formation: climate, living organisms, relief, parent material, and time.

Important soil forming processes include those that result in additions of organic, mineral, and gaseous materials to the soil (*8*); losses of these materials from the soil; translocation of materials from one point to another within the soil; and physical and chemical transformation of mineral and organic materials within the soil. Typically, many processes occur simultaneously in soils. Examples in the survey area include accumulation of organic matter, development of soil structure, and losses of bases from surface horizons. The contribution of a particular process may change over a period of time. For example, levee protection has reduced flooding and thus the rate of accumulation of sediments on many soils in the survey area. Some important processes that have con-

tributed to the formation of the soils in Iberville Parish are discussed in the following paragraphs.

Organic matter has accumulated, undergone partial decomposition, and been incorporated in all the soils. Organic matter production in soils is greatest in and above the surface soil horizons. This results in the formation of soils with surface horizons that are darker than the deeper horizons. Exceptions are in those soils with dark surface horizons of an older soil that is buried by more recent alluvium.

The decomposition, incorporation, and mixing of organic residues into the soil horizons are accomplished largely by the activity of living organisms. Many of the more stable products of decomposition remain as finely divided materials that contribute to granulation and serve as a source of plant nutrients in the soil. In the Barbary soils, the rate of accumulation of organic matter on the surface has exceeded the rate at which other processes result in its decomposition and incorporation into the soil. This results in a layer of largely organic material 2 to 8 inches thick on the surface of the mineral soil.

Intermittent addition of alluvial sediments at the surface has been of major importance in formation of the soils. Added sediments provide new parent material in which processes of soil formation must then occur. In many areas, accumulation of new materials has occurred at a faster rate than processes of soil formation could appreciably alter them. The evident depositional strata in soils, such as Convent, are a result of accumulations of this sort. Accumulations of sediments with widely contrasting texture are evident in the Tunica and Vacherie soils.

Processes resulting in development of soil structure have occurred in all the soils except Barbary. Plant roots and other organisms result in rearrangement of soil material into secondary aggregates. Decomposition products or organic residues and secretions of organisms serve as cementing agents that help stabilize structural aggregates. Alternate wetting and drying and shrinking and swelling result in the development of structural aggregates and are particularly effective in soils with appreciable amounts of clay, such as Sharkey.

Losses of components from the soils during soil formation have been minor. Water moving through the soil has, to some extent, removed soluble bases and any free carbonates initially present in upper horizons. This is indicated by soil reactions that are more alkaline in lower horizons than in surface horizons and by the absence of free carbonates in surface horizons of soils that are calcareous in lower horizons. Appreciable amounts of reduced iron and manganese may have been leached from soil horizons characterized by predominantly reducing conditions.

The poorly and very poorly drained soils in the survey area have horizons in which reduction and segregation of iron, and perhaps manganese, compounds has been an important process. Reducing conditions prevail in these poorly aerated horizons. Consequently, the soluble reduced forms of iron and manganese are predominant over the much less soluble oxidized forms. Reduced compounds of these elements result in the gray colors that are characteristic of the Ag, Bg, and Cg horizons in soils such as Barbary, Fausse, Sharkey, and Tunica. In the more soluble reduced forms, appreciable amounts of iron and manganese may be removed from the soils or translocated from one position to another within the soil by water. The presence of browner mottles in the predominantly gray horizons is indicative of the segregation and concentration of oxidized iron compounds as a result of alternating oxidizing and reducing conditions in the soils.

Secondary accumulations of calcium carbonate are present in horizons below a depth of about 30 inches in some of the soils. Carbonates dissolved from overlying horizons may have been translocated to these depths by water and redeposited. Other sources and processes may contribute in varying degrees to these carbonate accumulations. These include segregation of material within the horizon, upward translocation of materials in solution from deeper horizons during fluctuations of water table levels, and contributions of materials from readily weatherable minerals, such as plagioclase.

Factors of Soil Formation

A soil is a natural, three-dimensional body on the earth's surface that has properties resulting from the integrated effect of climate and living matter acting on parent material, as conditioned by relief over periods of time.

The interaction of five main factors influences the processes of soil formation and results in differences among the soils. These factors are the physical and chemical composition of the parent material; the climate during the formation of soil from the parent material; the kinds of plants and other organisms living in the soil; the relief of the land and its effect on runoff and soil moisture conditions; and the length of time it took the soil to form.

The effect of a factor can differ from place to place, but the interaction of all the factors determines the kind of soil that forms. Because of this interaction, it is recognized that many of the differences in soils cannot be attributed to differences in only one factor. For example, organic matter content in Iberville Parish soils is influenced by several factors, including relief, parent material, and living organisms. Such interactions do not preclude recognition of the manner in which a given factor may influence a specific soil property. In the following paragraphs the factors of soil formation are discussed as they relate to the soils in the survey area.

Parent Material

The parent material for mineral soils is the initial material from which the soils form. The soils mapped in Iberville Parish are mineral soils that formed in unconsolidated Mississippi River sediments of the natural levee and associated backswamp.

Sediments carried by the Mississippi River are of varied origin and may have originated anywhere in a drainage area that extends from western Montana to eastern Pennsylvania. Sorting of the sediments during deposition, together with a diverse mineralogy, results in marked differences in the parent materials of soils developed in the alluvium. Mineralogical studies (*1*) of the alluvium indicate that smectite minerals are predominant in the clay-sized fraction, with secondary amounts of micaceous clays. Associated with these are lesser amounts of kaolinite, chlorite-vermiculite intergrade, and quartz minerals. The sand and silt-size fractions are made up largely of quartz with a sizable component of feldspars and smaller amounts of a variety of minerals, including such readily weatherable components as biotite and hornblende. Partial sorting of these materials occurs when the stream overflows and the initial decrease in velocity and transporting capability of the water results in rapid deposition of sediments. As the velocity of the water decreases, the initial deposits are high in sand. These are followed by sediments high in silt which, in turn, are followed by more clayey materials.

The clayey backswamp sediments are deposited from still or slowly moving water in low areas back of the natural levees. Consequently, the natural levees are highest and have the greatest sand content near the river. They characteristically have long gentle slopes extending away from the river to the clayey backswamp deposits.

The Convent, Commerce, and Sharkey soils, respectively, formed in the coarsest, intermediate, and finest textured parent materials. A number of differences in these soils can be attributed, wholly or in part, to differences in the parent materials. For example, cation exchange capacity, organic matter content, and volume changes upon wetting and drying increase with increasing amounts of clay in the soils. Soil permeability, soil aeration, and content of readily weatherable minerals decrease with increasing clay content. Consequently, the silty soils are generally more productive for most agricultural crops and also provide the most desirable sites in the parish for most urban and industrial development.

The Fausse and Barbary soils formed in clayey deposits similar in nature to the parent material of the Sharkey soils. The major differences between Fausse, Barbary, and Sharkey soils are caused by factors other than parent material differences. The Tunica soils formed in areas where clayey alluvium less than 36 inches thick overlies loamy alluvium. Vacherie soils, on the other hand, formed in parent materials where loamy alluvium less than 36 inches thick overlies clayey alluvium.

Climate

Iberville Parish is in a region characterized by a humid, subtropical climate. A detailed discussion of the climate in the parish appears in a separate section "General Nature of the Parish." Because of the young age of the parent materials, the soils in Iberville Parish developed under climatic conditions similar to those of the present (*9*).

The climate is relatively uniform throughout the parish and, as a result, local differences in the soils are not caused by differences in atmospheric climate. The warm average temperatures and large amounts of precipitation favor a rapid rate of weathering of readily weatherable minerals in the soils. The soils are only slightly weathered because they have been exposed to weathering agents for only short periods of time. Weathering and leaching have occurred to some extent in most of the soils. This is indicated by soil reactions that become more alkaline with depth and by the absence of free carbonates in the upper horizons of such soils as Convent. Weathering processes involving the release and reduction of iron are indicated in soils, such as Fausse and Sharkey, that have gray Ag, Bg, or Cg horizons. Oxidation and segregation of iron as a result of alternating oxidizing and reducing conditions are indicated by mottled horizons in many of the soils.

Another important facet of climate is expressed in the clayey soils with large amounts of expanding lattice minerals, where large changes in volume occur upon wetting and drying. Wetting and drying cycles and associated volume changes are important factors in the formation and stabilization of structural aggregates in these soils. When the wet soils dry, cracks of variable width and depth may form as a result of the decrease in volume. The times when the cracks form and the depth and extent of cracking are influenced by climate. Repeated large changes in volume frequently result in structural problems for buildings, roads, and other improvements on the soils.

Formation of deep, wide cracks may shear roots of plants growing in the soil. When cracks are present, much of the water from initial rainfall or irrigation is infiltered through the cracks. Once the soil has become wet, infiltration rates become slow or very slow. Formation of cracks occurs extensively in the Sharkey and Tunica soils during the late summer and early fall months when the soils are driest. During this time, cracks of an inch or more in width and extending to depths of over 20 inches may form in most years. Cracks that are less extensive and less deep sometimes form in the more silty Commerce soils and in the clayey Fausse soils. Fausse soils dry to shallower depths than Sharkey soils and, as a result, do not crack as deep. Cracks do not form in the loamy Convent or in the continuously wet Barbary soils.

Time

The kinds of horizons and their degree of development within a soil are influenced by the length of time of soil formation. Long periods of time are generally required for soils to form prominent horizons. In many areas, the differences in time of soil formation for different soils may amount to several thousand years. In areas of this nature, large differences may exist between soils, largely because of differences in the time of soil formation.

The time of soil formation has been relatively short for the soils mapped in Iberville Parish. Saucier (*7*) indicates that the entire parish lies within the most recent Mississippi River Meander Belt and the associated backswamp or flood basins. He considers the age of deposits in the meander belt to range from the most recent up to almost 3,000 years old. Consequently, the actual age or time of soil development may show similar variation for soils developed in these sediments.

Relief

Relief and other physiographic features influence soil formation processes primarily by affecting internal soil drainage, runoff, erosion, and deposition, and exposure to the sun and wind. Iberville Parish is an area, which in the past was characterized by an accumulation of sediments at faster rates than erosion occurred. Under these conditions, accumulation of sediments occurred at a faster rate than many of the processes of soil formation. This is evidenced by the absence of B horizons in such soils as Barbary and Convent and by the distinct stratification in lower horizons of some soils. Levee construction and other water control measures may have reversed this trend for such soils as Convent, Commerce, and perhaps others. Soil slope and rate of runoff are low enough that erosion is not a major problem in the parish.

An important feature of the parish is the level or nearly level land surface. With few exceptions, the entire area is characterized by soils with slopes of less than 1 percent. Slopes ranging up to 3 percent may occur in small areas of Convent soils adjacent to stream channels and in the gently undulating areas of Sharkey clay. Relief and landscape position have had an important influence on formation of the different soils. Characteristically, the slopes are long and extend from highest elevations on the natural levees to elevations that are several feet lower in the backswamp areas.

Differences in the clayey Sharkey, Fausse, and Barbary soils illustrate the influence of relief on the soils in the parish. Barbary soils occur in the lowest ponded backswamp areas, and Sharkey soils are predominantly at higher elevations in the backswamp and on lower parts of the natural levees. Fausse soils occupy intermediate positions between Barbary and Sharkey soils. Compared to clayey soils at the higher elevations, those at lower elevation have higher organic matter content, are more poorly drained, have thinner sola, and form cracks to shallower depths during dry seasons.

From highest to lowest elevations, the predominant soils typically occur in the order Convent, Commerce, Sharkey, Fausse, and Barbary. Soils at lower elevations receive runoff from those at higher elevations, and the water table is nearer the surface for longer periods of time in the soils at lower elevations. For example, Convent soils are somewhat poorly drained, with a free water table at a depth of 1.5 to 4 feet for only short periods during most years. Barbary soils are very poorly drained and usually submerged, with a free water table that fluctuates from about 12 inches above the surface to a depth of 6 inches or less during all seasons. Differences in the organic matter content of the soils are related to the internal drainage of the soils and thus to relief. Organic matter content generally increases as internal soil drainage becomes more restricted.

Soils, such as the Convent, in the higher and better drained positions have an environment in which more extensive oxidation of organic matter occurs. The very poorly drained Barbary soils are covered with water for extended periods, resulting in a more reducing environment and in the accumulation of a 2 to 8 inch layer of organic matter on the surface.

Living Organisms

Living organisms affect the processes of soil formation in a number of ways and thereby exert a major influence on the kind and extent of horizons that develop. Growth of plants and activity of other organisms physically disturb the soil, modify porosity, and influence the formation of structure and the incorporation of organic matter.

Photosynthesis of plants utilizes energy from the sun to synthesize compounds necessary for growth, in this way producing additional organic matter. Growth of plants and their eventual decomposition provide for recycling of nutrients from the soil and serve as a major source of organic residues.

Decomposition and incorporation of organic matter by micro-organisms enhance the development of structure and generally increase the infiltration rate and water holding capacity in soils. Relatively stable organic compounds in soils generally have very high cation exchange capacities and thus increase the capacity of the soils to absorb and store such nutrients as calcium, magnesium, and potassium. The extent of these and other processes and the kind of organic matter produced can vary widely depending on the kinds of organisms living in and on the soil. As a result, large differences in soils may result in areas with widely contrasting populations of plants and other organisms.

The native vegetation in Iberville Parish consists mainly of hardwood forests and associated understory and ground cover. Cottonwood, sycamore, and hackberry are predominant on the higher and better drained Convent and Commerce soils. Oak, sweetgum, and green ash are predominant on the clayey, poorly drained Sharkey soils. The major native forest trees on the clayey, very poorly drained Fausse and Barbary soils are baldcypress, water tupelo, and pumpkin ash.

Differences in the amount of organic matter that has accumulated in and on the soils are greatly influenced by the kinds and populations of micro-organisms. Aerobic organisms utilize oxygen from the air and are chiefly responsible for organic matter decomposition through rapid oxidation of organic residues. These organisms are most abundant and prevail for longer periods in such

better drained and aerated soils as those of the Convent and Commerce series.

In the most poorly drained soils, anerobic organisms are predominant throughout most or all of the year. Anerobic organisms do not require oxygen from the air and decompose organic residues very slowly. Differences in decomposition by micro-organisms can result in large accumulations of organic matter in poorly drained soils, such as Barbary, while in better drained soils, such as Convent and Commerce, the accumulation is much less.

Classification

The system of soil classification currently used was adopted by the National Cooperative Soil Survey in 1965. Readers interested in further details about the system should refer to the latest literature available (*2, 11*).

The system of classification has six categories. Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. In this system the classification is based on the different soil properties that can be observed in the field or those that can be inferred either from other properties that are observable in the field or from the combined data of soil science and other disciplines. The properties selected for the higher categories are the result of soil genesis or of factors that affect soil genesis. In table 17, the soils of the survey area are classified according to the system. Categories of the system are discussed in the following paragraphs.

ORDER. Ten soil orders are recognized as classes in the system. The properties used to differentiate among orders are those that reflect the kind and degree of dominant soil-forming processes that have taken place. Each order is identified by a word ending in *sol*. An example is Entisol.

SUBORDER. Each order is divided into suborders based primarily on properties that influence soil genesis and are important to plant growth or that are selected to reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Aquent (*Aqu*, meaning water, plus *ent*, from Entisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of expression of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and a prefix that suggests something about the properties of the soil. An example is Fluvaquents (*Fluv*, indicating stream deposits, plus *aquent*, the suborder of Entisols that have an aquic moisture regime).

SUBGROUP. Each great group may be divided into three subgroups: the central (typic) concept of the great groups, which is not necessarily the most extensive subgroup; the intergrades, or transitional forms to other orders, suborders, or great groups; and the extragrades, which have some properties that are representative of the great groups but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies for the subgroup that is thought to typify the great group. An example is Typic Fluvaquents.

FAMILY. Families are established within a subgroup on the basis of similar physical and chemical properties that affect management. Among the properties considered in horizons of major biological activity below plow depth are particle-size distribution, mineral content, temperature regime, thickness of the soil penetrable by roots, consistence, moisture equivalent, soil slope, and permanent cracks. A family name consists of the name of a subgroup and a series of adjectives. The adjectives are the class names for the soil properties used as family differentiae. An example is very fine montmorillonitic, nonacid, thermic, Typic Fluvaquents.

SERIES. The series consists of soils that formed in a particular kind of material and have horizons that, except for texture of the surface soil or of the underlying substratum, are similar in differentiating characteristics and in arrangement in the soil profile. Among these characteristics are color, texture, structure, reaction, consistence, and mineral and chemical composition.

Glossary

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coat, clay skin.

Compressible. Excessive decrease in volume of soft soil under load.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—

Loose.—Noncoherent when dry or moist; does not hold together in a mass.

Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.

Sticky.—When wet, adheres to other material and tends to stretch somewhat and pull apart rather than to pull free from other material.

Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft.—When dry, breaks into powder or individual grains under very slight pressure.

Cemented.—Hard; little affected by moistening.

Cutbanks cave. Unstable walls of cuts made by earthmoving equipment. The soil sloughs easily.

Drainage class (natural). Refers to the frequency and duration of periods of saturation or partial saturation during soil formation, as opposed to altered drainage, which is commonly the result of artifi-

cial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven classes of natural soil drainage are recognized:

Excessively drained.—Water is removed from the soil very rapidly. Excessively drained soils are commonly very coarse textured, rocky, or shallow. Some are steep. All are free of the mottling related to wetness.

Somewhat excessively drained.—Water is removed from the soil rapidly. Many somewhat excessively drained soils are sandy and rapidly pervious. Some are shallow. Some are so steep that much of the water they receive is lost as runoff. All are free of the mottling related to wetness.

Well drained.—Water is removed from the soil readily, but not rapidly. It is available to plants throughout most of the growing season, and wetness does not inhibit growth of roots for significant periods during most growing seasons. Well drained soils are commonly medium textured. They are mainly free of mottling.

Moderately well drained.—Water is removed from the soil somewhat slowly during some periods. Moderately well drained soils are wet for only a short time during the growing season, but periodically for long enough that most mesophytic crops are affected. They commonly have a slowly pervious layer within or directly below the solum, or periodically receive high rainfall, or both.

Somewhat poorly drained.—Water is removed slowly enough that the soil is wet for significant periods during the growing season. Wetness markedly restricts the growth of mesophytic crops unless artificial drainage is provided. Somewhat poorly drained soils commonly have a slowly pervious layer, a high water table, additional water from seepage, nearly continuous rainfall, or a combination of these.

Poorly drained.—Water is removed so slowly that the soil is saturated periodically during the growing season or remains wet for long periods. Free water is commonly at or near the surface for long enough during the growing season that most mesophytic crops cannot be grown unless the soil is artificially drained. The soil is not continuously saturated in layers directly below plow depth. Poor drainage results from a high water table, a slowly pervious layer within the profile, seepage, nearly continuous rainfall, or a combination of these.

Very poorly drained.—Water is removed from the soil so slowly that free water remains at or on the surface during most of the growing season. Unless the soil is artificially drained, most mesophytic crops cannot be grown. Very poorly drained soils are commonly level or depressed and are frequently ponded.

Excess fines. Excess silt and clay. The soil does not provide a source of gravel or sand for construction purposes.

Low strength. Inadequate strength for supporting loads.

Parent material. The great variety of unconsolidated organic and mineral material in which soil forms. Consolidated bedrock is not yet parent material by this concept.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Percs slowly. The slow movement of water through the soil adversely affecting the specified use.

Piping. Moving water of subsurface tunnels or pipelike cavities in the soil.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Reaction, soil. The degree of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degree of acidity or alkalinity is expressed as—

	pH
Extremely acid	Below 4.5
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Medium acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Mildly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Relief. The elevations or inequalities of a land surface, considered collectively.

Seepage. The rapid movement of water through the soil. Seepage adversely affects the specified use.

Shrink-swell. The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Soil. A natural, three-dimensional body at the earth's surface that is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Surface soil. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt, silt loam, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay.* The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Tilth, soil. The condition of the soil, especially the soil structure, as related to the growth of plants. Good tilth refers to the friable state and is associated with high noncapillary porosity and stable structure. A soil in poor tilth is nonfriable, hard, nonaggregated, and difficult to till.

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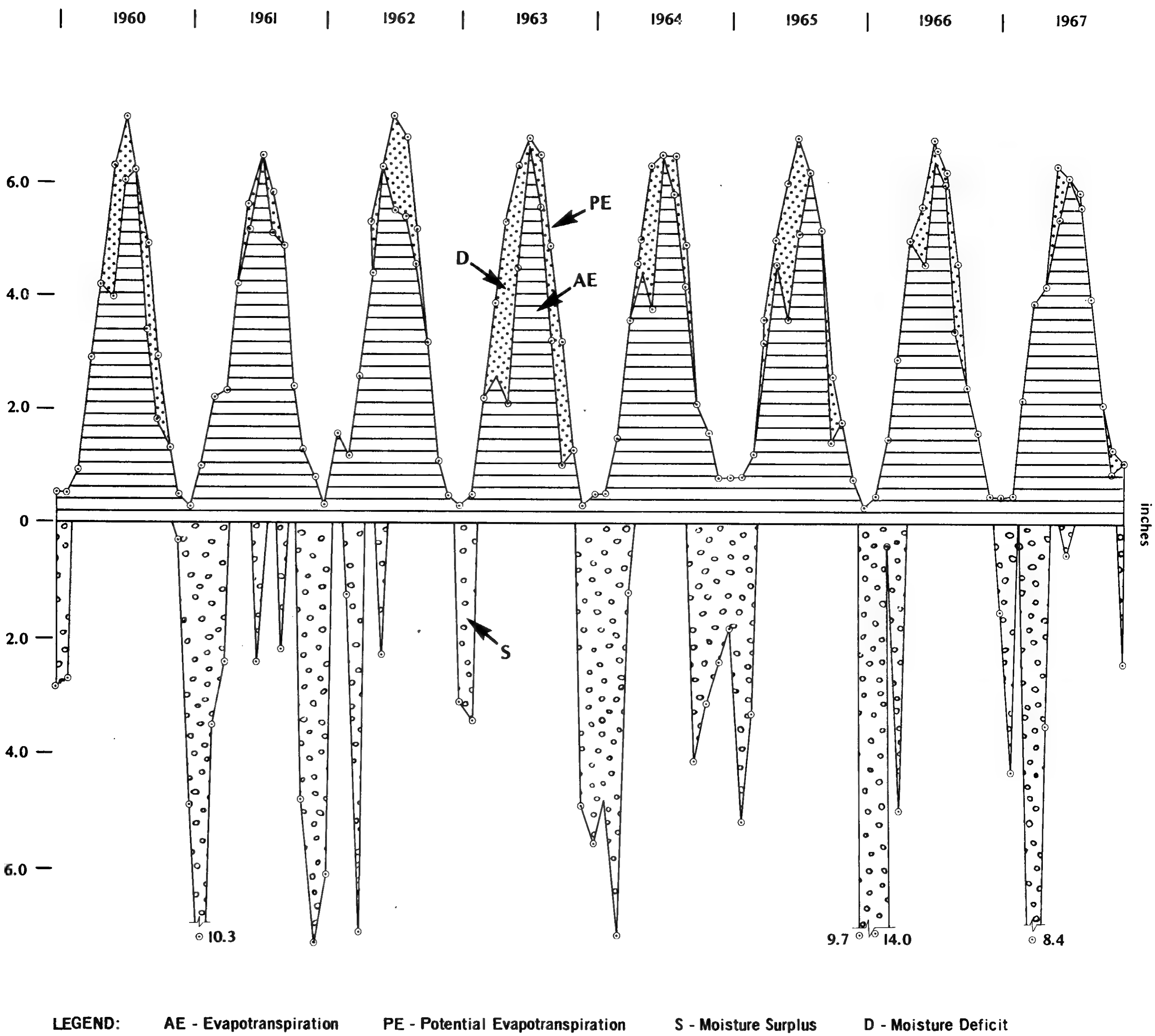

Figure 1.—Water-budget components recorded at Ryan Airport in Baton Rouge for the period 1960 through 1967.

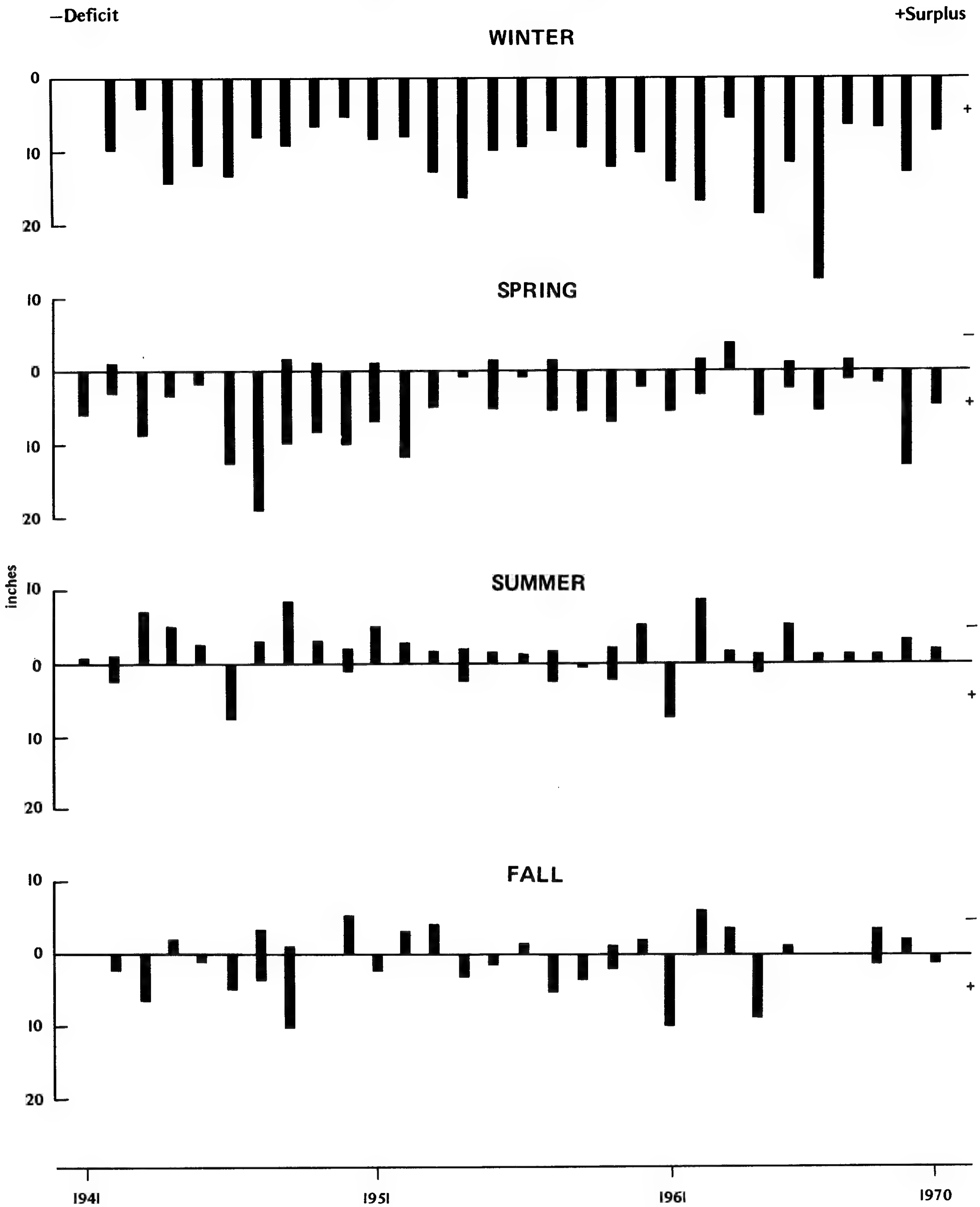

Figure 2.—Monthly water-budget surpluses and deficits at Lake Providence for the period 1941 through 1970.

Figure 3.—The East Atchafalaya Basin Protection Levee protects a large acreage of the parish from floodwaters of the Atchafalaya River.

Figure 4.—Soybeans on Commerce silty clay loam.

Figure 5.—Drainage is needed on Commerce silty clay loam for cropland and pasture.

Figure 6.—Flooding on Convent soils, frequently flooded. The Mississippi River is in the background.

Figure 7.—Black willows on Convent part of Convent and Fausse soils within the Atchafalaya Basin Floodway.

Figure 8.—Typical area of Fausse association.

Figure 9.—Hardwoods on Sharkey clay, gently undulating.

Figure 10.—Flooding on Sharkey clay, occasionally flooded.

Tables

TABLE 1.--TEMPERATURE AND PRECIPITATION DATA

Month	Temperature[1]					Precipitation[1]		
	Average daily maximum	Average daily minimum	Extreme average daily maximum and minimum	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average	1 year in 10 will have-- less than--	1 year in 10 will have-- more than--
	F	F	F	F	F	In	In	In
January	63	42	82/11	80	20	4.3	1.9	6.3
February	66	44	84/13	81	25	5.0	2.6	7.4
March	71	49	90/24	84	30	5.0	2.1	8.6
April	79	58	91/36	89	40	4.4	1.5	7.4
May	86	64	96/43	94	49	4.9	2.2	7.1
June	90	70	100/55	96	58	4.7	1.6	8.2
July	91	72	100/58	98	66	6.5	3.0	10.1
August	91	72	102/60	97	62	5.0	2.2	7.6
September	88	68	97/45	95	53	5.2	1.6	9.5
October	82	58	93/34	91	39	2.7	0.6	6.2
November	71	49	86/25	85	29	4.1	0.8	8.4
December	65	44	82/13	80	23	5.3	3.0	7.5
Year						57.2	48.8	69.8

[1]Recorded in the period 1941-1970 at Carville.

TABLE 2.--PROBABILITIES OF LAST LOW TEMPERATURES IN SPRING AND FIRST IN FALL

[All data from Carville, Iberville Parish]

Probability	Dates for given probability at temperatures of-- 24 degrees F or lower	28 degrees F or lower	32 degrees F or lower
SPRING:			
1 year in 10 later than	January 28	February 19	March 16
2 years in 10 later than	January 22	February 11	March 7
5 years in 10 later than	January 12	January 26	February 14
FALL:			
1 year in 10 earlier than	December 22	November 26	November 16
2 years in 10 earlier than	December 23	December 3	November 19
5 years in 10 earlier than	December 26	December 16	December 3

TABLE 3.--WATER BUDGET DEFICITS AND SURPLUSES AT CARVILLE

[Recorded in the period 1941-70]

Month	Deficit						Surplus						
	Mean	Probability of deficit equal to or greater than--					Mean	Probability of surplus equal to or greater than--					
		.1 in	1 in	2 in	3 in	4 in		.1 in	2 in	4 in	6 in	8 in	10 in
	In	Pct	Pct	Pct	Pct	Pct	In	Pct	Pct	Pct	Pct	Pct	Pct
January	---	3	---	---	---	---	3.4	97	77	33	10	3	3
February	---	3	---	---	---	---	4.0	---	70	40	20	10	3
March	---	10	---	---	---	---	3.4	80	60	37	17	10	3
April	0.1	33	3	---	---	---	1.6	63	27	17	7	---	---
May	0.3	50	10	---	---	---	0.7	40	10	10	---	---	---
June	0.9	70	37	13	7	---	0.4	20	13	---	---	---	---
July	0.7	60	27	13	3	---	0.5	20	13	3	---	---	---
August	1.0	73	37	20	10	3	---	10	---	---	---	---	---
September	0.6	57	20	10	7	---	0.6	17	10	7	3	---	---
October	0.7	63	30	10	---	---	0.3	17	7	3	---	---	---
November	0.1	23	---	---	---	---	1.3	53	23	13	3	3	---
December	---	---	---	---	---	---	3.4	90	67	30	10	7	7
Year	4.4	---	---	---	---	---	19.7	---	---	---	---	---	---

TABLE 4.--POTENTIAL OF SOIL ASSOCIATIONS FOR CROPLAND, HARDWOOD WOODLAND, AND URBANLAND

[Soil associations with potential use rating and major soil factors ranked in order of choice within the parish]

Cropland	Hardwood woodland	Urbanland
Commerce association:	Commerce association:	Commerce association:
Excellent--high fertility, wide choice of crops, high yields. May need drainage, suited to multirow equipment.	Excellent--high productivity, moderate equipment limitation, slight seedling mortality.	Fair--seasonal high water table, little or no probability of flooding within 100 years, fair engineering characteristics. Land between the river and levee excluded from this rating.
Sharkey association:	Convent, flooded association:	Sharkey association:
Good--high fertility, moderate to high yields, needs drainage, fairly wide choice of crops, suited to multirow equipment, difficult to work and prepare seedbed, surface layer stays wet for long periods.	Good--high productivity, moderate equipment limitation, slight seedling mortality, occasional flooding within the Atchafalaya Basin Floodway.	Poor--seasonal high water table, some probability of flooding within 100 years, poor engineering characteristics.
Convent, flooded association:	Sharkey association:	Convent, flooded association:
Fair--high fertility, high yields, short seasonal crops required due to flooding, suited to multirow equipment within the Atchafalaya Basin Floodway.	Good--high productivity, severe equipment limitations, moderate seedling mortality.	Very poor--subject to occasional flooding, scouring, and deposition, fair engineering characteristics within the Atchafalaya Basin Floodway.
Sharkey, flooded association:	Sharkey, flooded association:	Convent-Fausse association:
Poor--high fertility, short season crops required due to flooding, difficult to work and prepare seedbed, surface layer stays wet for long periods within the Atchafalaya Basin Floodway.	Good--high productivity, severe equipment limitations, moderate seedling mortality, occasional flooding within the Atchafalaya Basin Floodway.	Very poor--subject to frequent flooding, scouring, and deposition, fair to poor engineering characteristics within the Atchafalaya Basin Floodway.
Convent-Fausse association:	Sharkey-Fausse association:	Sharkey, flooded association:
Very poor--subject to frequent deep flooding, scouring, deposition, and river cutting, some areas are undulating, permanent high water table in low areas within the Atchafalaya Basin Floodway.	Fair--high to low productivity, severe equipment limitations, severe seedling mortality, frequent flooding.	Very poor--subject to occasional flooding, poor engineering characteristics within the Atchafalaya Basin Floodway.
Sharkey-Fausse association:	Convent-Fausse association:	Sharkey-Fausse association:
Very poor--subject to frequent flooding, permanent high water table in low areas.	Poor--high to low productivity, frequent deep flooding, scouring, and deposition, severe equipment limitations, and seedling mortality in wet low areas within the Atchafalaya Basin Floodway.	Very poor--subject to frequent flooding, poor engineering characteristics.

TABLE 4.--POTENTIAL OF SOIL ASSOCIATIONS FOR CROPLAND, HARDWOOD WOODLAND, AND URBANLAND--Continued

Cropland	Hardwood woodland	Urbanland
Fausse-Sharkey association:	Fausse-Sharkey association:	Fausse-Sharkey association:
Very poor--subject to frequent deep flooding, permanent high water table in low areas within the Atchafalaya Basin Floodway.	Poor--low to medium productivity, severe equipment limitations, severe seedling mortality, frequent deep flooding within the Atchafalaya Basin Floodway.	Very poor--subject to frequent deep flooding, poor engineering characteristics within the Atchafalaya Basin Floodway.
Barbary association:	Barbary association:	Barbary association:
Very poor--permanent high water table, poor traffic supporting capacity, almost continuous flooding.	Poor--low productivity, permanent flooding, severe equipment limitations, severe seedling mortality.	Very poor--permanent high water table, almost continuous flooding, very poor engineering characteristics.

TABLE 5.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Acres	Percent
BA	Barbary association	4,906	1.2
Cc	Commerce silt loam	44,572	10.7
Ce	Commerce silty clay loam	28,384	6.8
Cn	Convent silt loam	7,673	1.8
CO	Convent soils, occasionally flooded	6,635	1.6
CS	Convent soils, frequently flooded	5,808	1.4
CV	Convent and Fausse soils	17,318	4.2
FA	Fausse association	22,804	5.5
FU	Fausse soils	62,346	15.0
Sa	Sharkey silty clay loam	9,750	2.3
Sc	Sharkey clay	72,645	17.5
Sh	Sharkey clay, gently undulating	2,587	0.6
Sk	Sharkey clay, frequently flooded	65,261	15.7
SS	Sharkey soils, occasionally flooded	15,300	3.7
SY	Sharkey and Fausse soils	17,471	4.2
Tu	Tunica clay	8,592	2.1
Va	Vacherie silt loam	2,090	0.5
	Small water	7,778	1.9
	Total land area	401,920	96.7
	Large water	14,028	3.3
	Total area	415,948	100.0

TABLE 6.--YIELDS PER ACRE OF CROPS AND PASTURE

[Yields in columns N are for nonirrigated soils; those in column I are for irrigated soils. All yields were estimated for a high level of management in 1973. Absence of a yield figure indicates the crop is seldom grown or is not suited]

Soil name and map symbol	Sugarcane	Soybeans	Common bermudagrass	Improved bermudagrass	Rice	Corn
	N	N	N	N	I	N
	Ton	Bu	AUM[1]	AUM[1]	Bu	Bu
Barbary:						
[2]BA	---	---	---	---	---	---
Commerce:						
Cc	35	40	8.0	15.5	---	95
Ce	35	40	7.5	15.0	---	85
Convent:						
Cn	32	40	8.0	15.0	---	95
[2]CO	---	---	7.5	---	---	---
[2]CS	---	---	6.5	---	---	---
[2]CV	---	---	---	---	---	---
Fausse:						
[2]FA, [2]FU	---	---	---	---	---	---
Sharkey:						
Sa, Sc	30	40	6.5	---	130	---
Sh	---	30	6.5	---	---	---
Sk	---	---	5.0	---	---	---
[2]SS	---	30	6.0	---	---	---
[2]SY	---	---	---	---	---	---
Tunica:						
Tu	30	40	6.5	---	130	---
Vacherie:						
Va	33	40	8.0	15.0	---	85

[1]Animal-unit-month: The amount of forage or feed required to feed one animal unit (cow, horse, mule) for a period of 30 days.

[2]This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY

[Only the soils suitable for production of commercial trees are listed in this table. Absence of an entry in a column means the information was not available]

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Potential productivity: Important trees	Potential productivity: Site index	Trees to plant
Barbary:							
[1]BA	4w	Slight	Severe	Severe	Baldcypress	---	Baldcypress.
					Water tupelo	60	
					Black willow	---	
					Pumpkin ash	---	
					Green ash	---	
Commerce:							
Cc, Ce	1w	Slight	Moderate	Slight	Green ash	80	Eastern cottonwood, American sycamore.
					Eastern cottonwood	120	
					Nuttall oak	90	
					Water oak	110	
					Pecan	---	
					American sycamore	---	
Convent:							
Cn, [1]CO, [1]CS	1w	Slight	Moderate	Slight	Green ash	80	Eastern cottonwood, American sycamore.
					Eastern cottonwood	120	
					Sweetgum	110	
					American sycamore	---	
[1]CV:							
Convent part	1w	Slight	Moderate	Slight	Green ash	80	Eastern cottonwood, American sycamore.
					Eastern cottonwood	120	
					Sweetgum	110	
					American sycamore	---	
Fausse part	4w	Slight	Severe	Severe	Green ash	---	Baldcypress.
					Baldcypress	---	
					Water hickory	---	
					Water tupelo	---	
					Pumpkin ash	---	
Fausse:							
[1]FA, [1]FU	4w	Slight	Severe	Severe	Green ash	---	Baldcypress.
					Baldcypress	---	
					Water hickory	---	
					Water tupelo	---	
					Pumpkin ash	---	
Sharkey:							
Sa, Sc, Sh	2w	Slight	Severe	Moderate	Green ash	85	Eastern cottonwood, American sycamore.
					Eastern cottonwood	100	
					Cherrybark oak	90	
					Sweetgum	90	
					Water oak	---	
					Pecan	---	
					American sycamore	---	
					Pumpkin ash	---	
Sk, [1]SS	3w	Slight	Severe	Severe	Green ash	---	Eastern cottonwood.
					Eastern cottonwood	---	
[1]SY:							
Sharkey part	3w	Slight	Severe	Severe	Green ash	---	Eastern cottonwood.
					Eastern cottonwood	---	
Fausse part	4w	Slight	Severe	Severe	Green ash	---	Baldcypress.
					Baldcypress	---	
					Water hickory	---	
					Water tupelo	---	
					Pumpkin ash	---	

See footnote at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Potential productivity: Important trees	Potential productivity: Site index	Trees to plant
Tunica:							
Tu	2w	Slight	Severe	Moderate	Cherrybark oak	90	Eastern cottonwood, American sycamore.
					Eastern cottonwood	100	
					Green ash	100	
					Nuttall oak	105	
					Sweetgum	90	
Vacherie:							
Va	1w	Slight	Moderate	Slight	Green ash	---	Eastern cottonwood, American sycamore.
					Eastern cottonwood	120	
					Sweetgum	110	
					American sycamore	---	

[1]This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 8.--BUILDING SITE DEVELOPMENT

["Shrink-swell" and some of the other terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry means soil was not rated]

Soil name and map symbol	Shallow excavations	Dwellings without basements	Small commercial buildings	Local roads and streets
Barbary:				
[1]BA	Severe: floods, wetness, too clayey.	Severe: floods.	Severe: floods, shrink-swell, low strength.	Severe: floods, shrink-swell, low strength.
Commerce:				
Cc, Ce	Severe: wetness.	Moderate: wetness, low strength, shrink-swell.	Moderate: wetness, low strength, shrink-swell.	Moderate: wetness, low strength, shrink-swell.
Convent:				
Cn	Severe: wetness, cutbanks cave.	Moderate: low strength, wetness.	Moderate: low strength, wetness.	Moderate: low strength, wetness.
[1]CO, [1]CS	Severe: floods, wetness.	Severe: floods.	Severe: floods.	Severe: floods.
[1]CV:				
Convent part	Severe: floods, wetness.	Severe: floods.	Severe: floods.	Severe: floods.
Fausse part	Severe: floods, too clayey, wetness.	Severe: floods.	Severe: floods, wetness, shrink-swell.	Severe: floods, wetness, shrink-swell.
Fausse:				
[1]FA, [1]FU	Severe: floods, too clayey, wetness.	Severe: floods.	Severe: floods, wetness, shrink-swell.	Severe: floods, wetness, shrink-swell.
Sharkey:				
Sa, Sc, Sh	Severe: wetness, too clayey.	Severe: wetness, low strength, shrink-swell.	Severe: wetness, low strength, shrink-swell.	Severe: wetness, low strength, shrink-swell.
Sk, [1]SS	Severe: floods, wetness, too clayey.	Severe: floods.	Severe: floods, wetness, shrink-swell.	Severe: floods, wetness, shrink-swell.
[1]SY:				
Sharkey part	Severe: floods, wetness, too clayey.	Severe: floods.	Severe: floods, wetness, shrink-swell.	Severe: floods, wetness, shrink-swell.
Fausse part	Severe: floods, too clayey, wetness.	Severe: floods.	Severe: floods, wetness, shrink-swell.	Severe: floods, wetness, shrink-swell.
Tunica:				
Tu	Severe: too clayey, wetness.	Severe: wetness, shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell, wetness.

See footnote at end of table.

TABLE 8.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Small commercial buildings	Local roads and streets
Vacherie:				
Va	Severe: wetness, too clayey.	Moderate: wetness, shrink-swell, low strength.	Moderate: wetness, shrink-swell, low strength.	Severe: shrink-swell, low strength.

[1]This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 9.--SANITARY FACILITIES

["Shrink-swell" and some of the other terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," "severe," and other terms used to rate soils. Absence of an entry means soil was not rated]

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Barbary:					
[1]BA	Severe: floods, wetness, percs slowly.	Severe: floods, excess humus.	Severe: floods, too clayey, wetness.	Severe: floods, wetness.	Poor: wetness, too clayey.
Commerce:					
Cc, Ce	Severe: percs slowly, wetness.	Severe: wetness.	Severe: wetness.	Fair: too clayey.	Fair: too clayey.
Convent:					
Cn	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Good.
[1]CO, [1]CS	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Good.
[1]CV:					
Convent part	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Good.
Fausse part	Severe: floods, percs slowly, wetness.	Severe: floods.	Severe: floods, wetness, too clayey.	Severe: floods, wetness.	Poor: too clayey, wetness.
Fausse:					
[1]FA, [1]FU	Severe: floods, percs slowly, wetness.	Severe: floods.	Severe: floods, wetness, too clayey.	Severe: floods, wetness.	Poor: too clayey, wetness.
Sharkey:					
Sa, Sc, Sh	Severe: wetness, percs slowly.	Slight	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, wetness.
Sk, [1]SS	Severe: floods, wetness, percs slowly.	Severe: floods.	Severe: floods, wetness, too clayey.	Severe: floods, wetness.	Poor: too clayey, wetness.
[1]SY:					
Sharkey part	Severe: floods, wetness, percs slowly.	Severe: floods.	Severe: floods, wetness, too clayey.	Severe: floods, wetness.	Poor: too clayey, wetness.
Fausse part	Severe: floods, percs slowly, wetness.	Severe: floods.	Severe: floods, wetness, too clayey.	Severe: floods, wetness.	Poor: too clayey, wetness.
Tunica:					
Tu	Severe: percs slowly, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: too clayey, wetness.
Vacherie:					
Va	Severe: percs slowly, wetness.	Slight	Severe: wetness, too clayey.	Severe: wetness.	Poor: thin layer.

[1]This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 10.--CONSTRUCTION MATERIALS

["Shrink-swell" and some of the other terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," "poor," and "unsuited." Absence of an entry means soil was not rated]

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
Barbary:				
[1]BA	Poor: wetness, low strength, shrink-swell.	Unsuited: excess fines, excess humus.	Unsuited: excess fines, excess humus.	Poor: excess humus, wetness.
Commerce:				
Cc	Fair: low strength, shrink-swell, wetness.	Unsuited: excess fines.	Unsuited: excess fines.	Good.
Ce	Fair: low strength, shrink-swell, wetness.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: too clayey.
Convent:				
Cn, [1]CO, [1]CS	Fair: wetness, low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Good.
[1]CV:				
Convent part	Fair: wetness, low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Good.
Fausse part	Poor: wetness, low strength, shrink-swell.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: too clayey, wetness.
Fausse:				
[1]FA, [1]FU	Poor: wetness, low strength, shrink-swell.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: too clayey, wetness.
Sharkey:				
Sa, Sc, Sh, Sk, [1]SS	Poor: low strength, shrink-swell, wetness.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: wetness, too clayey.
[1]SY:				
Sharkey part	Poor: low strength, shrink-swell, wetness.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: wetness, too clayey.
Fausse part	Poor: wetness, low strength, shrink-swell.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: too clayey, wetness.
Tunica:				
Tu	Poor: shrink-swell, wetness.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: too clayey, wetness.
Vacherie:				
Va	Poor: low strength, shrink-swell.	Unsuited: excess fines.	Unsuited: excess fines.	Good.

[1]This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 11.--WATER MANAGEMENT

["Seepage" and some of the other terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry means soil was not evaluated]

Soil name and map symbol	Limitations for-- Pond reservoir areas	Limitations for-- Embankments, dikes, and levees	Features affecting-- Drainage	Features affecting-- Irrigation	Features affecting-- Grassed waterways
Barbary:					
[1]BA	Slight	Severe: low strength, compressible, shrink-swell.	Floods, percs slowly.	Floods, percs slowly, wetness.	Not needed.
Commerce:					
Cc	Moderate: seepage.	Slight	Favorable	Favorable	Favorable.
Ce	Moderate: seepage.	Slight	Favorable	Slow intake	Favorable.
Convent:					
Cn	Moderate: seepage.	Moderate: erodes easily, piping, low strength.	Cutbanks cave	Favorable	Erodes easily.
[1]CO, [1]CS	Moderate: seepage.	Moderate: erodes easily, piping, low strength.	Floods, cutbanks cave.	Floods	Erodes easily.
[1]CV:					
Convent part	Moderate: seepage.	Moderate: erodes easily, piping, low strength.	Floods, cutbanks cave.	Floods	Erodes easily.
Fausse part	Slight	Moderate: shrink-swell, compressible, low strength.	Floods, percs slowly, poor outlets.	Floods, percs slowly, wetness.	Not needed.
Fausse:					
[1]FA, [1]FU	Slight	Moderate: shrink-swell, compressible, low strength.	Floods, percs slowly, poor outlets.	Floods, percs slowly, wetness.	Not needed.
Sharkey:					
Sa, Sc	Slight	Moderate: low strength, compressible, shrink-swell.	Percs slowly	Percs slowly, slow intake, wetness.	Wetness.
Sh	Slight	Moderate: low strength, compressible, shrink-swell.	Percs slowly	Complex slope, percs slowly, slow intake.	Wetness.
Sk, [1]SS	Slight	Moderate: low strength, compressible, shrink-swell.	Floods, percs slowly.	Percs slowly, slow intake, wetness.	Wetness.
[1]SY:					
Sharkey part	Slight	Moderate: low strength, compressible, shrink-swell.	Floods, percs slowly.	Percs slowly, slow intake, wetness.	Wetness.

See footnote at end of table.

TABLE 11.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for--		Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Grassed waterways
Sharkey:					
Fausse part	Slight	Moderate: shrink-swell, compressible, low strength.	Floods, percs slowly.	Floods, percs slowly, wetness.	Not needed.
Tunica:					
Tu	Moderate: seepage.	Moderate: shrink-swell, compressible.	Wetness, percs slowly.	Slow intake, floods, wetness.	Percs slowly, wetness.
Vacherie:					
Va	Slight	Moderate: low strength, shrink-swell, compressible.	Percs slowly	Percs slowly	Erodes easily.

[1]This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 12.--RECREATIONAL DEVELOPMENT

["Shrink-swell" and some of the other terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe"]

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
Barbary:				
[1]BA	Severe: floods, wetness, percs slowly.	Severe: floods, wetness, percs slowly.	Severe: floods, wetness, percs slowly.	Severe: floods, wetness, percs slowly.
Commerce:				
Cc	Moderate: wetness, percs slowly.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.
Ce	Moderate: too clayey, percs slowly.	Moderate: wetness, too clayey.	Moderate: wetness, too clayey.	Moderate: wetness, too clayey.
Convent:				
Cn	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.
[1]CO, [1]CS	Severe: floods.	Severe: floods.	Severe: floods.	Severe: floods.
[1]CV:				
Convent part	Severe: floods.	Severe: floods.	Severe: floods.	Severe: floods.
Fausse part	Severe: floods, wetness, too clayey.	Severe: floods, wetness, too clayey.	Severe: floods, wetness, too clayey.	Severe: floods, wetness, too clayey.
Fausse:				
[1]FA, [1]FU	Severe: floods, wetness, too clayey.	Severe: floods, wetness, too clayey.	Severe: floods, wetness, too clayey.	Severe: floods, wetness, too clayey.
Sharkey:				
Sa, Sc, Sh	Severe: too clayey, percs slowly, wetness.	Severe: too clayey, wetness.	Severe: too clayey, percs slowly, wetness.	Severe: too clayey, wetness.
Sk, [1]SS	Severe: floods, too clayey, percs slowly.	Severe: floods, too clayey, wetness.	Severe: floods, too clayey, percs slowly.	Severe: floods, too clayey, wetness.
[1]SY:				
Sharkey part	Severe: floods, too clayey, percs slowly.	Severe: floods, too clayey, wetness.	Severe: floods, too clayey, percs slowly.	Severe: floods, too clayey, wetness.
Fausse part	Severe: floods, wetness, too clayey.	Severe: floods, wetness, too clayey.	Severe: floods, wetness, too clayey.	Severe: floods, wetness, too clayey.
Tunica:				
Tu	Severe: wetness, too clayey, percs slowly.	Severe: wetness, too clayey.	Severe: wetness, too clayey, percs slowly.	Severe: wetness, too clayey.

See footnote at end of table.

TABLE 12.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
Vacherie: Va	Moderate: percs slowly, wetness.	Moderate: wetness.	Moderate: percs slowly, wetness.	Moderate: wetness.

[1]This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 13.--NATIVE PLANTS ON SELECTED SOILS IN WETLANDS[1]

[Common--Observed growing throughout most of soil area. Uncommon--Observed growing only in a few places on soil area]

Soil	Grasses, sedges, and rushes	Forbs and forb-like plants	Vines	Shrubs and shrub-like plants	Trees
Barbary:					
BA	Common: None	Common: Duckweed, alligatorweed, Spanish moss, waterhyacinth.	Common: None	Common: Buttonbush	Common: Baldcypress, black willow, water tupelo.
	Uncommon: None	Uncommon: Butterweed	Uncommon: None	Uncommon: Marshmallow	Uncommon: Drummond red maple, green ash, honey locust, pumpkin ash, water locust.
Convent:					
CO	Common: Bushy bluestem, carex sedge.	Common: Mistflower, nettle, aster, blue verbena, butterweed, Carolina horsenettle, common cocklebur, curly dock, dog fennel, smartweed, Spanish moss, thistle, vetch.	Common: Grape, Japanese climbing fern, peppervine, climbing hempweed, poison ivy, rattan, trumpet-creeper, Virginia creeper.	Common: Marshmallow, American elderberry, blackberry, dewberry, southern waxmyrtle.	Common: Eastern cottonwood, American sycamore, black willow, boxelder, common persimmon, sugarberry, sweetberry, water oak.
	Uncommon: Fall panicum, horned beakrush, plumegrass.	Uncommon: Avens, beefsteak-plant, bugleweed, buttercup, fern, giant ragweed, goldenrod, lythrum, pennywort, purple pluchea, smallspike falsenettle, strawberry.	Uncommon: Buckwheatvine, Carolina snailseed, common greenbrier, morning glory, saw greenbrier.	Uncommon: Dwarf palmetto, eastern baccharis, lead plant, possumhaw.	Uncommon: American elm, baldcypress, Drummond red maple, green ash, laurel oak, live oak, Nuttall oak, overcup oak.
Convent and Fausse:					
CV:					
Convent part	Common: Carex sedge	Common: Butterweed, common cocklebur, purple pluchea, smartweed, Spanish moss.	Common: Poison ivy	Common: Marshmallow	Common: Black willow

See footnote at end of table.

TABLE 13.--NATIVE PLANTS ON SELECTED SOILS IN WETLANDS--Continued

Soil	Grasses, sedges, and rushes	Forbs and forb-like plants	Vines	Shrubs and shrub-like plants	Trees
Convent part cont.	Uncommon: Fall panicum, horned beakrush, plumegrass.	Uncommon: Aster, bugleweed, Carolina horsenettle, curley dock, fern, giant ragweed, mistflower, nettle, smallspike falsenettle, strawberry.	Uncommon: Buckwheatvine, Carolina snailseed, climbing hempweed, morning glory, peppervine, rattan, saw greenbrier, trumpet-creeper, Virginia creeper.	Uncommon: American elderberry, blackberry, butterbush, dewberry, southern waxmyrtle, swampprivet.	Uncommon: American sycamore, baldcypress, eastern cottonwood, green ash, sugarberry, sweetgum, water elm, water hickory, water locust, water tupelo.
Fausse part	Common: Carex sedge	Common: Alligatorweed, duckweed, smartweed, Spanish moss, waterhyacinth.	Common: None	Common: American snowbell, buttonbush, swampprivet.	Common: Baldcypress, black willow, green ash, honey locust, pumpkin ash, sweetgum, water elm, water hickory, water locust, water tupelo.
	Uncommon: Fall panicum, plumegrass.	Uncommon: Butterweed, Carolina horsenettle, common cocklebur, giant ragweed, lizard tail, purple pluchea.	Uncommon: Buckwheatvine, climbing hempweed, rattan, trumpet-creeper.	Uncommon: Blackberry, eastern baccharis, hawthorn, lead plant, marshmallow, poison ivy.	Uncommon: Common persimmon, Drummond red maple, Nuttall oak, sugarberry.
Fausse: FA, FU	Common: Carex sedge	Common: Alligatorweed, duckweed, smartweed, Spanish moss, waterhyacinth.	Common: None	Common: American snowbell, buttonbush, swampprivet.	Common: Baldcypress, black willow, green ash, honey locust, pumpkin ash, sweetgum, water elm, water hickory, water locust, water tupelo.
	Uncommon: Fall panicum, plumegrass.	Uncommon: Butterweed, Carolina horsenettle, common cocklebur, giant ragweed, lizard tail, purple pluchea.	Uncommon: Buckwheatvine, climbing hempweed, rattan, trumpet-creeper.	Uncommon: Blackberry, eastern baccharis, hawthorn, lead plant, marshmallow, poison ivy.	Uncommon: Common persimmon, Drummond red maple, Nuttall oak, sugarberry.

See footnote at end of table.

TABLE 13.--NATIVE PLANTS ON SELECTED SOILS IN WETLANDS--Continued

Soil	Grasses, sedges, and rushes	Forbs and forb-like plants	Vines	Shrubs and shrub-like plants	Trees
Sharkey: SS cont.	Uncommon: Fall panicum	Uncommon: Alligatorweed, avens, beefsteak-plant, bugleweed, buttercup, lythrum, mistflower, purple pluchea.	Uncommon: Buckwheatvine, Carolina snailseed, Japanese climbing vine, morning glory, saw greenbrier.	Uncommon: Hawthorn, possumhaw, swampprivet.	Uncommon: American elm, American sycamore, baldcypress, eastern cottonwood, live oak, pumpkin ash, water hickory, water locust.
Sharkey and Fausse: SY: Fausse part	Common: Carex sedge	Common: Alligatorweed, duckweed, smartweed, Spanish moss, waterhyacinth.	Common: None	Common: American snowbell, buttonbush, swampprivet.	Common: Baldcypress, black willow, green ash, honey locust, pumpkin ash, sweetgum, water elm, water hickory, water locust, water tupelo.
	Uncommon: Fall panicum, plumegrass.	Uncommon: Butterweed, Carolina horsenettle, common cocklebur, giant ragweed, lizard tail, purple pluchea.	Uncommon: Buckwheatvine, climbing hempweed, rattan, trumpet-creeper.	Uncommon: Blackberry, eastern baccharis, hawthorn, lead plant, marshmallow, poison ivy.	Uncommon: Common persimmon, Drummond red maple, Nuttall oak, sugarberry.
Sharkey part	Common: Bushy bluestem, carex sedge, horned beakrush, plumegrass.	Common: Blue verbena, butterweed, Carolina horsenettle, common cocklebur, curley dock, giant ragweed, goldenrod, pennywort, smallspike falsenettle, smartweed, Spanish moss, thistle.	Common: Peppervine, poison ivy, rattan, trumpet-creeper.	Common: Blackberry, dwarf palmetto, eastern baccharis, hawthorn, lead plant.	Common: Black willow, common persimmon, Drummond red maple, green ash, honey locust, overcup oak, sugarberry, sweetgum, water hickory, water locust, water oak.

See footnote at end of table.

TABLE 13.--NATIVE PLANTS ON SELECTED SOILS IN WETLANDS--Continued

Soil	Grasses, sedges, and rushes	Forbs and forb-like plants	Vines	Shrubs and shrub-like plants	Trees
Sharkey:					
SK	Common: Bushy bluestem, carex sedge, horned beakrush, plumegrass.	Common: Blue verbena, butterweed, Carolina horsenettle, common cocklebur, curley dock, giant ragweed, goldenrod, pennywort, smallspike falsenettle, smartweed, Spanish moss, thistle.	Common: Peppervine, poison ivy, rattan, trumpet-creeper.	Common: Blackberry, dwarf palmetto, eastern baccharis, hawthorn, lead plant.	Common: Blackwillow, common persimmon, Drummond red maple, green ash, honey locust, overcup oak, sugarberry, sweetgum, water hickory, water locust, water oak.
	Uncommon: Fall panicum	Uncommon: Alligatorweed, Aster, beefsteak-plant, bugleweed, buttercup, dog fennel, fern, lizard tail, lythrum, mistflower, nettle, purple pluchea, vetch, waterhyacinth.	Uncommon: Buckwheatvine, Carolina snailseed, climbing hempweed, common greenbrier, grape, Japanese climbing fern, morning glory, saw greenbrier, Virginia creeper.	Uncommon: American elderberry, buttonbush, dewberry, marshmallow, possumhaw, swampprivet.	Uncommon: American elm, American sycamore, baldcypress, boxelder, eastern cottonwood, laurel oak, live oak, Nuttall oak, pumpkin ash, water elm, water tupelo.
SS	Common: Bushy bluestem, carex sedge, horned beakrush, plumegrass.	Common: Aster, blue verbena, butterweed, Carolina horsenettle, common cocklebur, curley dock, dog fennel, fern, giant ragweed, goldenrod, nettle, pennywort, smallspike falsenettle, smartweed, Spanish moss, strawberry, thistle, vetch.	Common: Climbing hempweed, common greenbrier, grape, peppervine, poison ivy, rattan, trumpet-creeper, Virginia creeper.	Common: American elderberry, blackberry, dewberry, dwarf palmetto, eastern baccharis, lead plant, marshmallow, southern waxmyrtle.	Common: Black willow, boxelder, common persimmon, Drummond red maple, green ash, honey locust, laurel oak, Nuttall oak, overcup oak, sugarberry, sweetgum, water oak.

See footnote at end of table.

TABLE 13.--NATIVE PLANTS ON SELECTED SOILS IN WETLANDS--Continued

Soil	Grasses, sedges, and rushes	Forbs and forb-like plants	Vines	Shrubs and shrub-like plants	Trees
Sharkey part, cont.	Uncommon: Fall panicum	Uncommon: Alligatorweed, aster, beefsteak-plant, bugleweed, buttercup, dog fennel, fern, lizard tail, lythrum, mistflower, nettle, purple pluchea, vetch, waterhyacinth.	Uncommon: Buckwheatvine, Carolina snailseed, climbing hempweed, common greenbrier, grape, Japanese climbing fern, morning glory, saw greenbrier, Virginia creeper.	Uncommon: American elderberry, buttonbush, dewberry, marshmallow, possumhaw, swampprivet.	Uncommon: American elm, American sycamore, baldcypress, boxelder, eastern cottonwood, laurel oak, live oak, Nuttall oak, pumpkin ash, water elm, water tupelo.

[1]Data for this table was collected during late fall and winter. Some species not observed may be present during spring and summer.

TABLE 14.--WILDLIFE HABITAT POTENTIALS

[See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates the soil was not rated]

Soil name and map symbol	Potential for habitat elements						Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Barbary:									
[1]BA	Very poor.	Very poor.	Very poor.	Very poor.	Fair	Poor	Very poor.	Very poor.	Fair.
Commerce:									
Cc, Ce	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Convent:									
Cn	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
[1]CO	Fair	Good	Good	Good	Fair	Fair	Good	Good	Fair.
[1]CS	Poor	Fair	Fair	Good	Fair	Fair	Fair	Good	Fair.
[1]CV:									
Convent part	Poor	Fair	Fair	Good	Fair	Fair	Fair	Good	Fair.
Fausse part	Very poor.	Very poor.	Very poor.	Poor	Good	Good	Very poor.	Poor	Good.
Fausse:									
[1]FA, [1]FU	Very poor.	Very poor.	Very poor.	Poor	Good	Good	Very poor.	Poor	Good.
Sharkey:									
Sa, Sc	Fair	Fair	Fair	Good	Good	Good	Fair	Good	Good.
Sh	Fair	Fair	Fair	Good	Good	Poor	Fair	Good	Fair.
Sk	Poor	Fair	Fair	Good	Fair	Fair	Poor	Fair	Fair.
[1]SS	Fair	Fair	Fair	Good	Good	Good	Fair	Good	Good.
[1]SY:									
Sharkey part	Poor	Fair	Fair	Good	Fair	Fair	Poor	Fair	Fair.
Fausse part	Very poor.	Very poor.	Very poor.	Poor	Good	Good	Very poor.	Poor	Good.
Tunica:									
Tu	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Vacherie:									
Va	Fair	Good	Good	Good	Fair	Fair	Good	Good	Fair.

[1]This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 15.--ENGINEERING PROPERTIES AND CLASSIFICATIONS

[The symbol < means less than; > means greater than. Absence of an entry means data were not estimated]

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In								Pct	
Barbary:										
[1]BA----------------	6-0	Muck------------	PT	A-8	---	---	---	---	---	---
	0-6	Mucky clay, clay	OH	A-7-5, A-8	100	100	100	95-100	70-90	35-45
	6-60	Clay------------	MH	A-7-5	100	100	100	95-100	70-90	35-45
Commerce:										
Cc----------------	0-11	Silt loam-------	CL-ML, CL, ML	A-4, A-6	100	100	100	85-100	<30	NP-10
	11-29	Silty clay loam, silt loam.	CL	A-6, A-7-6	100	100	100	80-100	25-45	11-23
	29-60	Very fine sandy loam, silty clay loam, silt loam.	CL-ML, CL, ML	A-4, A-6	100	100	100	75-100	<40	NP-20
Ce----------------	0-9	Silty clay loam	CL	A-6, A-7-6	100	100	100	90-100	32-50	11-25
	9-28	Silty clay loam, silt loam.	CL	A-6, A-7-6	100	100	100	80-100	25-45	11-23
	28-60	Very fine sandy loam, silty clay loam, silt loam.	CL-ML, CL, ML	A-4, A-6	100	100	100	75-100	<40	NP-20
Convent:										
Cn, CS------------	0-10	Silt loam-------	ML, CL-ML	A-4	100	100	95-100	85-100	<27	NP-7
	10-40	Silt loam, very fine sandy loam.	ML, CL-ML	A-4	100	100	95-100	85-100	<27	NP-7
	40-60	Silt loam, loamy very fine sand, very fine sandy loam.	ML, CL-ML	A-4	100	100	95-100	65-100	<27	NP-7
CO----------------	0-10	Silt loam, very fine sandy loam.	ML, CL-ML	A-4	100	100	95-100	85-100	<27	NP-7
	10-40	Silt loam, very fine sandy loam.	ML	A-4	100	100	95-100	75-95	<23	NP-3
	40-60	Silt loam, very fine sandy loam, loamy very fine sand, clay.	ML, CL-ML, CH	A-4, A-7-6	100	100	95-100	75-95	<85	NP-50
[1]CV:										
Convent part----	0-8	Silt loam, very fine sandy loam.	ML, CL-ML	A-4	100	100	95-100	85-100	<27	NP-7
	8-40	Silt loam, very fine sandy loam.	ML, CL-ML	A-4	100	100	95-100	95-100	<27	NP-7
	40-60	Silt loam, very fine sandy loam, loamy very fine sand, clay.	ML, CH, CL-ML, MH	A-7-6, A-7-5	100	100	95-100	75-100	<100	NP-65
Fausse part-----	0-10	Clay, mucky clay.	CH, OH, MH	A-7-6, A-7-5	100	100	100	95-100	60-100	30-65
	10-60	Clay------------	CH, MH	A-7-6, A-7-5	100	100	100	95-100	60-105	30-73
Fausse:										
[1]FA, [1]FU----------	0-10	Clay, mucky clay.	CH, OH, MH	A-7-6, A-7-5	100	100	100	95-100	60-100	30-65
	10-60	Clay------------	CH, MH	A-7-6, A-7-5	100	100	100	95-100	60-105	30-73

See footnote at end of table.

TABLE 15.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
Sharkey:										
Sa----------------	0-11	Silty clay loam	CL	A-6, A-7-6	100	100	100	95-100	32-50	11-25
	11-36	Clay------------	CH	A-7-6	100	100	100	95-100	56-85	30-50
	36-60	Clay, silty clay loam, silt loam.	CL-ML, CL, CH	A-4, A-6, A-7-6	100	100	100	95-100	25-85	5-50
Sc, Sh, Sk, SS----	0-36	Clay------------	CH	A-7-6	100	100	100	95-100	56-85	30-50
	36-60	Clay, silty clay loam, silt loam.	CL-ML, CL, CH	A-4, A-6, A-7-6	100	100	100	95-100	25-85	5-50
[1]SY:										
Sharkey part----	0-36	Clay------------	CH	A-7-6	100	100	100	95-100	56-85	30-50
	36-60	Clay, silty clay loam, silt loam.	CL-ML, CL, CH	A-4, A-6, A-7-6	100	100	100	95-100	25-85	5-50
Fausse part-----	0-5	Clay, mucky clay.	CH, OH, MH	A-7-6, A-7-5	100	100	100	95-100	60-100	30-65
	5-60	Clay------------	CH, MH	A-7-6, A-7-5	100	100	100	95-100	60-105	30-73
Tunica:										
Tu----------------	0-25	Clay, silty clay	CH, MH	A-7-6	100	98-100	95-100	90-100	50-80	25-45
	25-60	Very fine sandy loam, silt loam, silty clay loam.	ML, CL-ML, CL	A-4, A-6	100	95-100	65-100	51-100	<40	NP-20
Vacherie:										
Va----------------	0-21	Silt loam, very fine sandy loam	ML, CL-ML	A-4	100	100	95-100	65-100	<27	NP-7
	21-60	Clay, silty clay	CH	A-7-6	100	100	100	95-100	51-75	26-45

[1]This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 16.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS

[The symbol < means less than; > means greater than. Absence of an entry means data were not available or were not estimated]

Soil name and map symbol	Depth	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Risk of corrosion	
						Uncoated steel	Concrete
	In	In/hr	In/in	pH			
Barbary:							
[1]BA	6-0	>2.0	>.20	6.1-7.8	Low	High	Moderate.
	0-6	<0.06	0.18-0.20	6.6-7.8	High	High	Moderate.
	6-60	<0.06	0.18-0.20	7.4-8.4	High	High	Moderate.
Commerce:							
Cc	0-11	0.2-0.6	0.20-0.22	5.6-7.8	Moderate	High	Low.
	11-29	0.2-0.6	0.20-0.22	6.1-8.4	Moderate	High	Low.
	29-60	0.2-2.0	0.20-0.23	6.6-8.4	Low	High	Low.
Ce	0-9	0.2-0.6	0.20-0.22	5.6-7.8	Moderate	High	Low.
	9-28	0.2-0.6	0.20-0.22	6.1-8.4	Moderate	High	Low.
	28-60	0.2-2.0	0.20-0.23	6.6-8.4	Low	High	Low.
Convent:							
Cn, CS	0-10	0.6-2.0	0.18-0.23	6.6-8.4	Low	High	Low.
	10-40	0.6-2.0	0.20-0.23	6.6-8.4	Low	High	Low.
	40-60	0.6-2.0	0.20-0.23	6.6-8.4	Low	High	Low.
CO	0-10	0.6-2.0	0.18-0.23	6.6-8.4	Low	High	Low.
	10-40	0.6-2.0	0.20-0.23	6.6-8.4	Low	High	Low.
	40-60	0.6-2.0	0.20-0.23	6.6-8.4	Low	High	Low.
[1]CV:							
Convent part	0-8	0.6-2.0	0.18-0.23	6.6-8.4	Low	High	Low.
	8-40	0.6-2.0	0.20-0.23	6.6-8.4	Low	High	Low.
	40-60	0.6-2.0	0.20-0.23	6.6-8.4	Low	High	Low.
Fausse part	0-10	<0.06	0.18-0.20	5.6-7.3	Very high	High	Low.
	10-60	<0.06	0.18-0.20	7.4-8.4	Very high	High	Low.
Fausse:							
[1]FA, [1]FU	0-10	<0.06	0.18-0.20	5.6-7.3	Very high	High	Low.
	10-60	<0.06	0.18-0.20	7.4-8.4	Very high	High	Low.
Sharkey:							
Sa	0-11	0.2-0.6	0.20-0.22	5.6-8.4	Moderate	High	Low.
	11-36	<0.06	0.18-0.20	6.1-8.4	Very high	High	Low.
	36-60	<0.2	0.18-0.22	6.6-8.4	Very high	High	Low.
Sc, Sh, Sk, SS	0-36	<0.06	0.18-0.20	5.6-8.4	Very high	High	Low.
	36-60	0.06-0.2	0.18-0.22	6.6-8.4	Very high	High	Low.
[1]SY:							
Sharkey part	0-36	<0.06	0.18-0.20	5.6-8.4	Very high	High	Low.
	36-60	0.06-0.2	0.18-0.22	6.6-8.4	Very high	High	Low.
Fausse part	0-5	<0.06	0.18-0.20	5.6-7.3	Very high	High	Low.
	5-60	<0.06	0.18-0.20	7.4-8.4	Very high	High	Low.
Tunica:							
Tu	0-25	<0.06	0.15-0.20	6.1-7.8	High	High	Low.
	25-60	0.06-2.0	0.10-0.22	6.6-7.8	Low	High	Low.
Vacherie:							
Va	0-21	0.6-2.0	0.20-0.23	6.1-8.4	Low	High	Low.
	21-60	<0.06	0.18-0.20	7.4-8.4	Very high	High	Low.

[1]This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 17.--CLASSIFICATION OF THE SOILS

Soil name	Family or higher taxonomic class
Barbary	Very-fine, montmorillonitic, nonacid, thermic Typic Hydraquents
Commerce	Fine-silty, mixed, nonacid, thermic Aeric Fluvaquents
Convent	Coarse-silty, mixed, nonacid, thermic Aeric Fluvaquents
Fausse	Very-fine, montmorillonitic, nonacid, thermic Typic Fluvaquents
Sharkey	Very-fine, montmorillonitic, nonacid, thermic Vertic Haplaquepts
Tunica	Clayey over loamy, montmorillonitic, nonacid, thermic Vertic Haplaquepts
Vacherie	Coarse-silty over clayey, mixed, nonacid, thermic Aeric Fluvaquents

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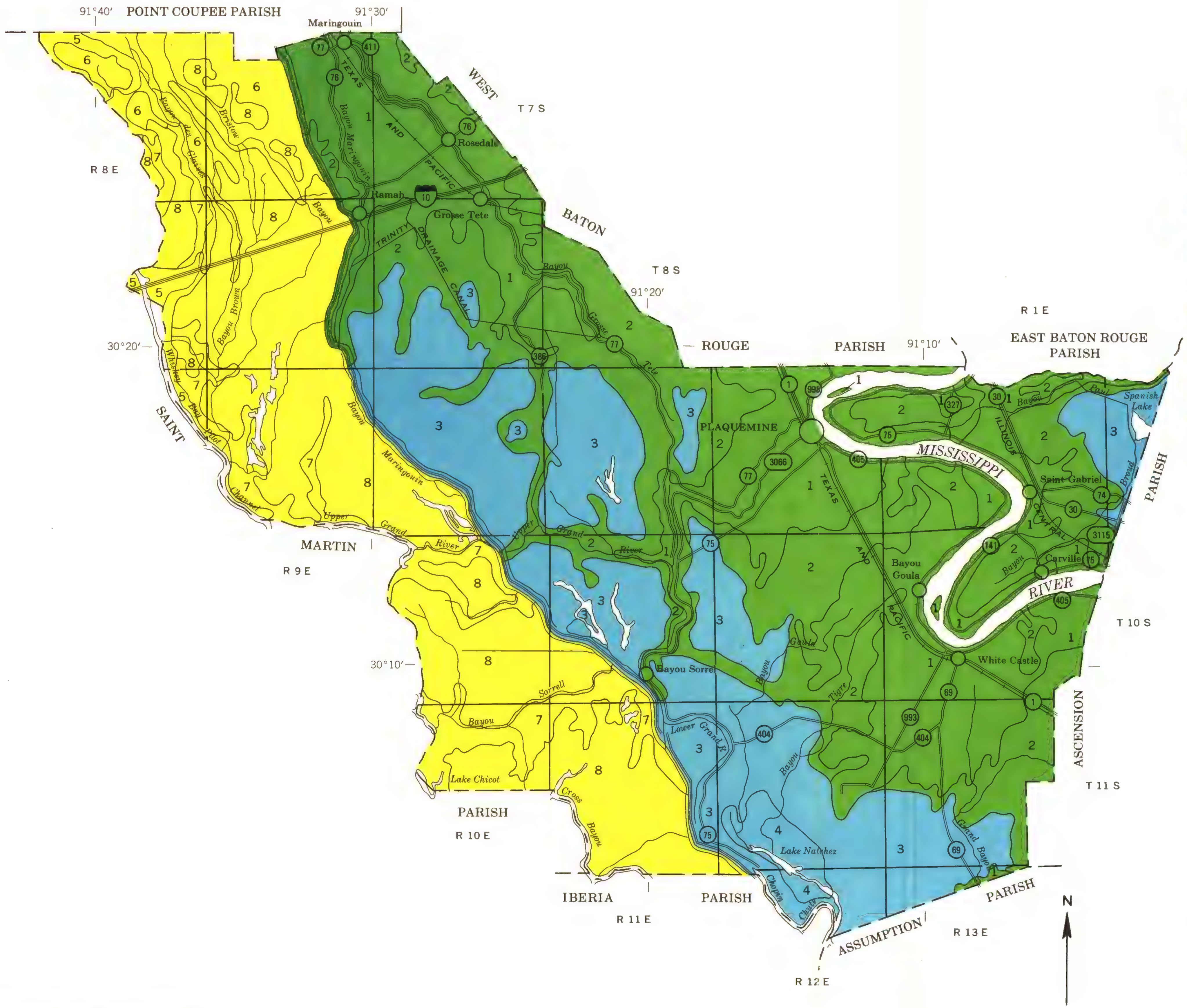


LEGEND

SOILS THAT ARE SELDOM TO NEVER FLOODED; OUTSIDE THE ATCHAFALAYA BASIN FLOODWAY

1 Commerce association: Nearly level, somewhat poorly drained loamy soils

2 Sharkey association: Level, poorly drained clayey soils

SOILS THAT ARE FREQUENTLY FLOODED; OUTSIDE THE ATCHAFALAYA BASIN FLOODWAY

3 Sharkey-Fausse association: Level, poorly drained and very poorly drained, frequently flooded clayey soils

4 Barbary association: Level, very poorly drained, nearly continuously flooded clayey soils

SOILS THAT ARE OCCASIONALLY TO FREQUENTLY FLOODED; INSIDE THE ATCHAFALAYA BASIN FLOODWAY

5 Convent, flooded association: Level and gently undulating, somewhat poorly drained, occasionally flooded loamy soils

6 Sharkey, flooded association: Level, poorly drained, occasionally flooded clayey soils

7 Convent-Fausse association: Gently undulating and level, somewhat poorly drained and very poorly drained, frequently flooded loamy and clayey soils

8 Fausse-Sharkey association: Level, very poorly drained and poorly drained, frequently flooded clayey soils

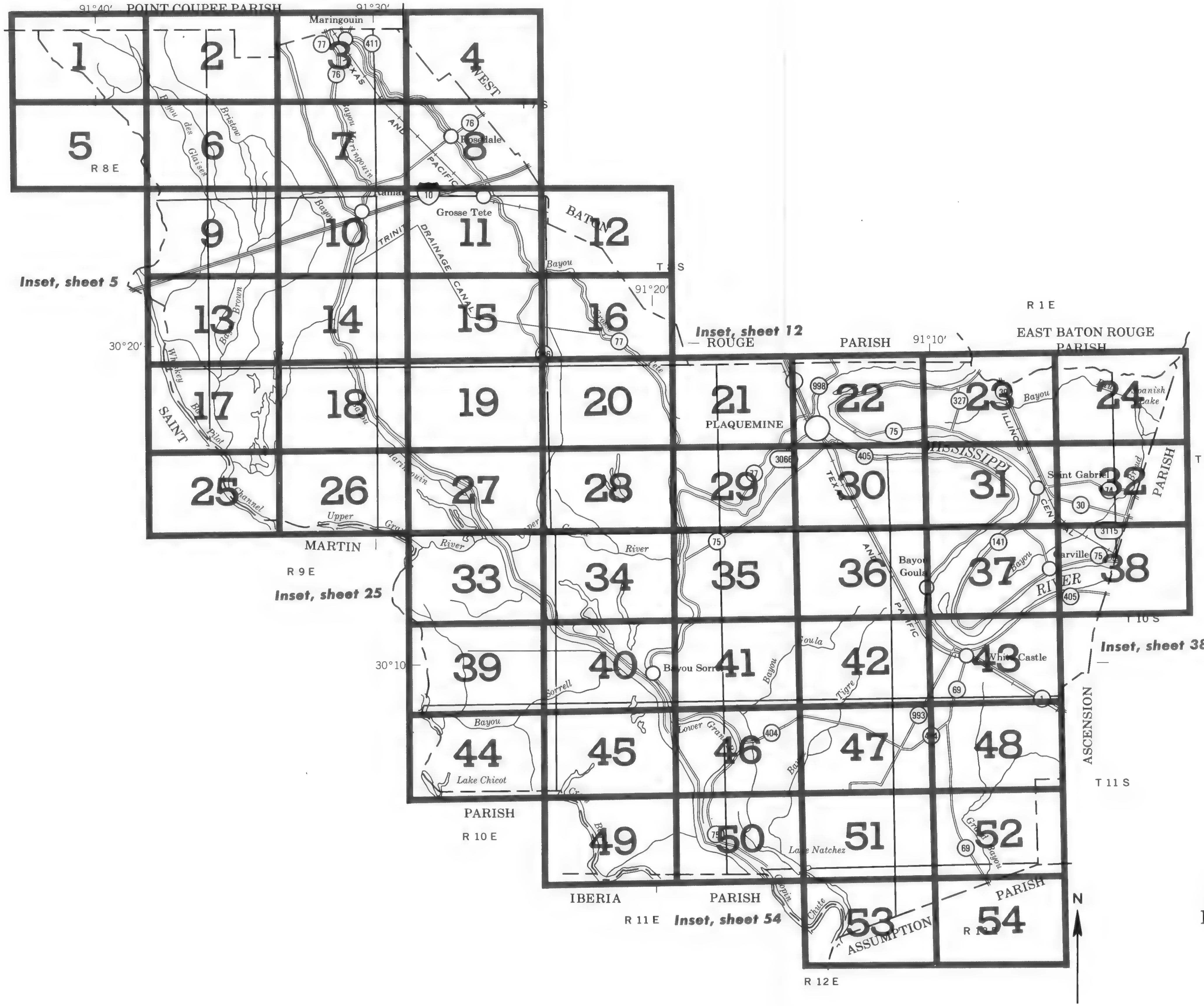
Compiled 1976

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
LOUISIANA AGRICULTURAL EXPERIMENT STATION

GENERAL SOIL MAP
IBERVILLE PARISH, LOUISIANA

Scale 1:253,440
1 0 1 2 3 4 Miles

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.



INDEX TO MAP SHEETS
IBERVILLE PARISH, LOUISIANA

Scale 1:253,440
1 0 1 2 3 4 Miles

SOIL LEGEND

The first letter of the map symbol, a capital letter, is the initial letter of the soil name. The second letter is a lower case letter for the narrowly defined units and a capital letter for broadly defined units.

BA	Barbary association
Cc	Commerce silt loam
Ce	Commerce silty clay loam
Cn	Convent silt loam
CO	Convent soils, occasionally flooded 1/
CS	Convent soils, frequently flooded
CV	Convent and Fausse soils
FA	Fausse association
FU	Fausse soils
Sa	Sharkey silty clay loam
Sc	Sharkey clay
Sh	Sharkey clay, gently undulating
Sk	Sharkey clay, frequently flooded
SS	Sharkey soils, occasionally flooded
SY	Sharkey and Fausse soils
Tu	Tunica clay
Va	Vacherie silt loam

1/ Delineations of broadly defined units generally are much larger and the composition of the unit is apt to be more variable than the other units in the survey area. Mapping has been controlled well enough, however, to be interpreted for the anticipated uses of the soils.

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park, and large airport)
- Land grant
- Limit of soil survey (label)
- Field sheet matchline & neatline

AD HOC BOUNDARY (label)

- Small airport, airfield, park, oilfield, cemetery, or flood pool — Davis Airstrip; FLOOD POOL LINE

STATE COORDINATE TICK

LAND DIVISION CORNERS (sections and land grants)

ROADS

- Divided (median shown if scale permits)
- Other roads
- Trail

ROAD EMBLEMS & DESIGNATIONS

- Interstate — 79
- Federal — 410
- State — 52
- County, farm or ranch — 378

RAILROAD

POWER TRANSMISSION LINE (normally not shown)

PIPE LINE (normally not shown)

FENCE (normally not shown)

LEVEES

- Without road
- With road
- With railroad

DAMS

- Large (to scale)
- Medium or small — water; w

PITS

- Gravel pit
- Mine or quarry

MISCELLANEOUS CULTURAL FEATURES

- Farmstead, house (omit in urban areas)
- Church
- School
- Indian mound (label) — Indian Mound
- Located object (label) — Tower
- Tank (label) — GAS
- Wells, oil or gas
- Windmill
- Kitchen midden

WATER FEATURES

DRAINAGE

- Perennial, double line
- Perennial, single line
- Intermittent
- Drainage end
- Canals or ditches
  - Double-line (label) — CANAL
  - Drainage and/or irrigation

LAKES, PONDS AND RESERVOIRS

- Perennial — water; w
- Intermittent — int; i

MISCELLANEOUS WATER FEATURES

- Marsh or swamp
- Spring
- Well, artesian
- Well, irrigation
- Wet spot

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS — CeA FoB2

ESCARPMENTS

- Bedrock (points down slope)
- Other than bedrock (points down slope)

SHORT STEEP SLOPE

GULLY

DEPRESSION OR SINK

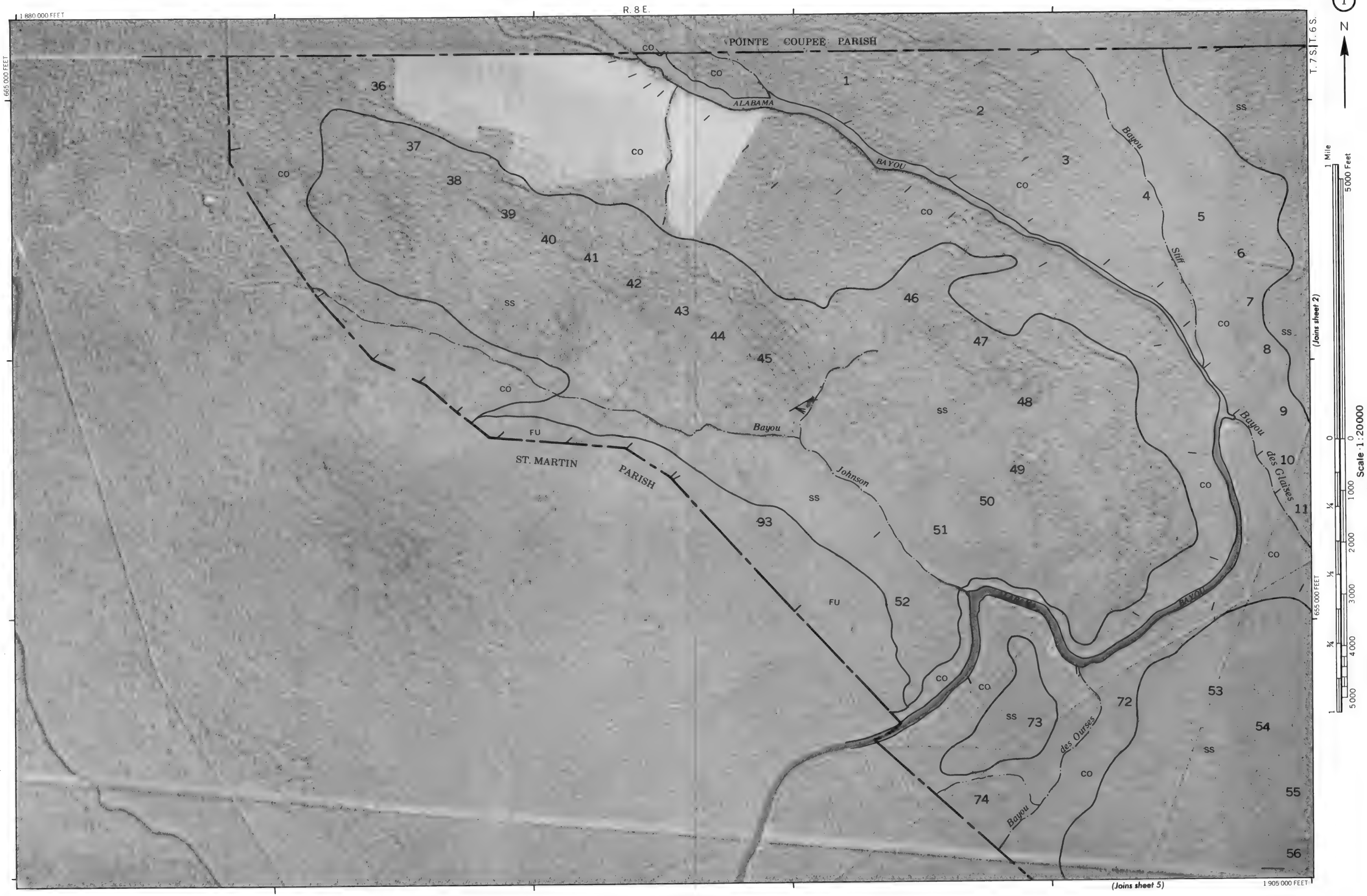
SOIL SAMPLE SITE (normally not shown) — S

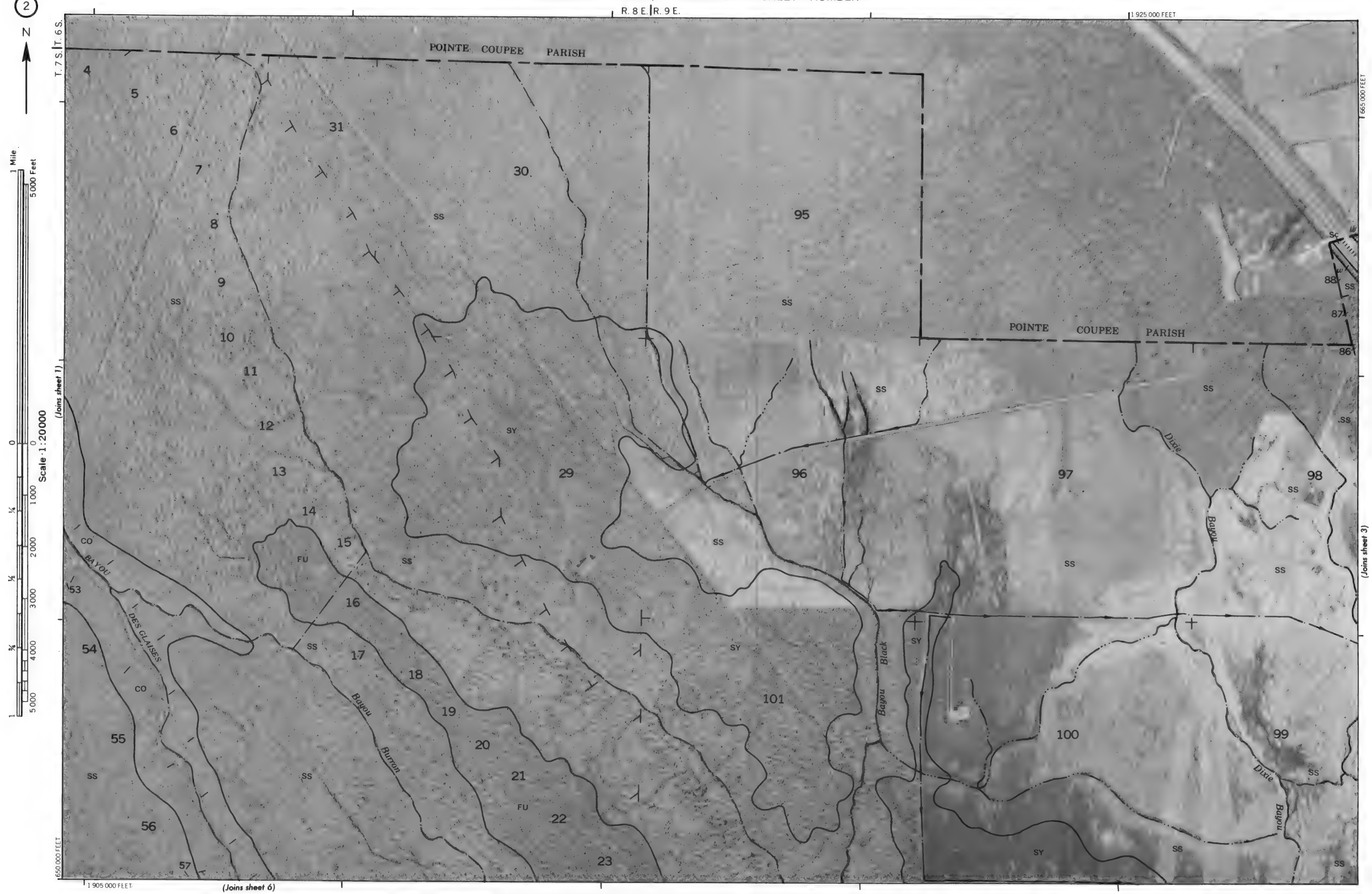
MISCELLANEOUS

- Blowout
- Clay spot
- Gravelly spot
- Gumbo, slick or scabby spot (sodic)
- Dumps and other similar non soil areas
- Prominent hill or peak
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip (tips point upslope)
- Stony spot, very stony spot

IBERVILLE PARISH, LOUISIANA NO. 1

This map is compiled on 1971 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Coordinate grid ticks and land division corners, if shown, are approximately positioned





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IBERVILLE PARISH, LOUISIANA NO. 3

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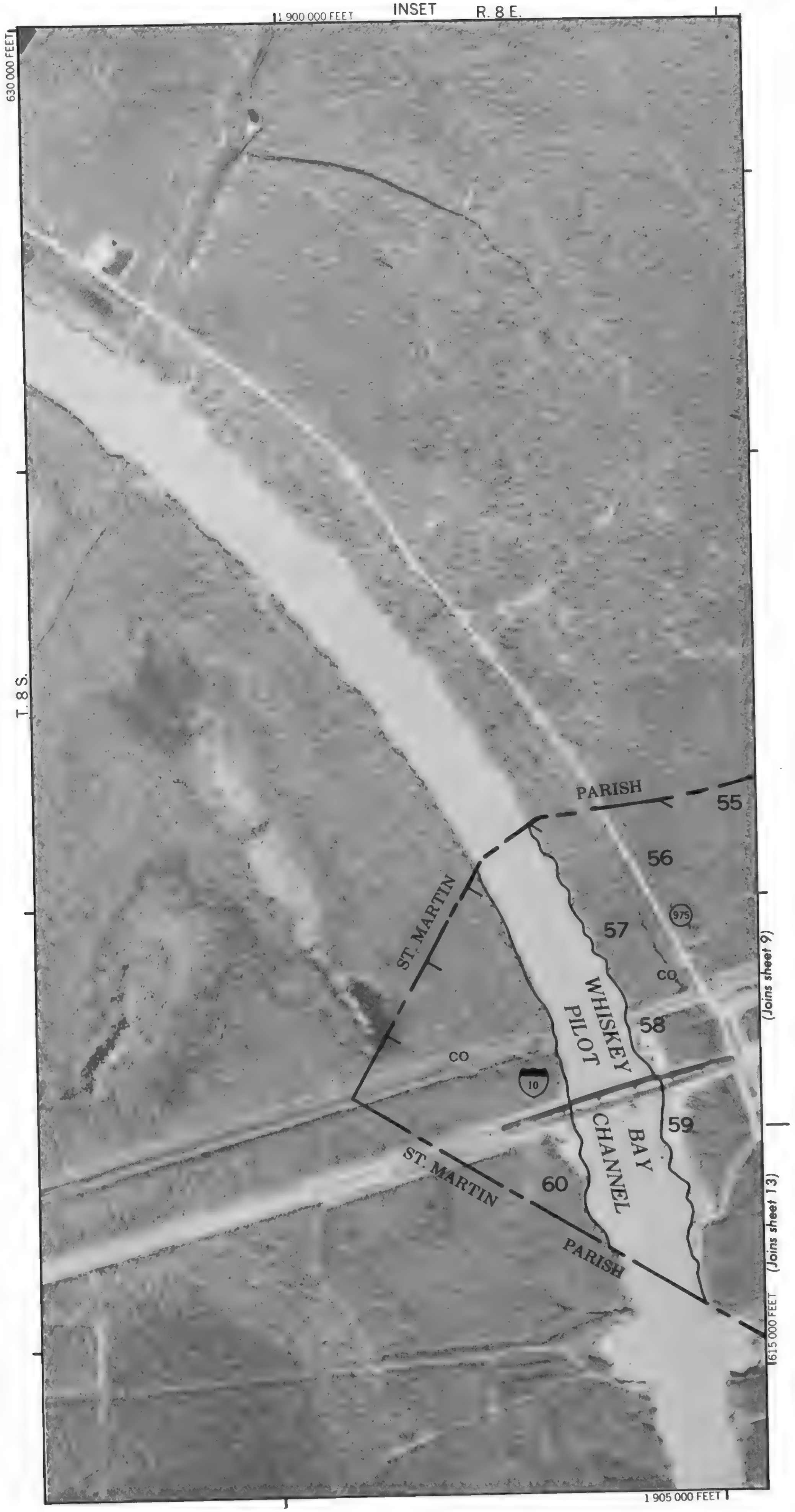
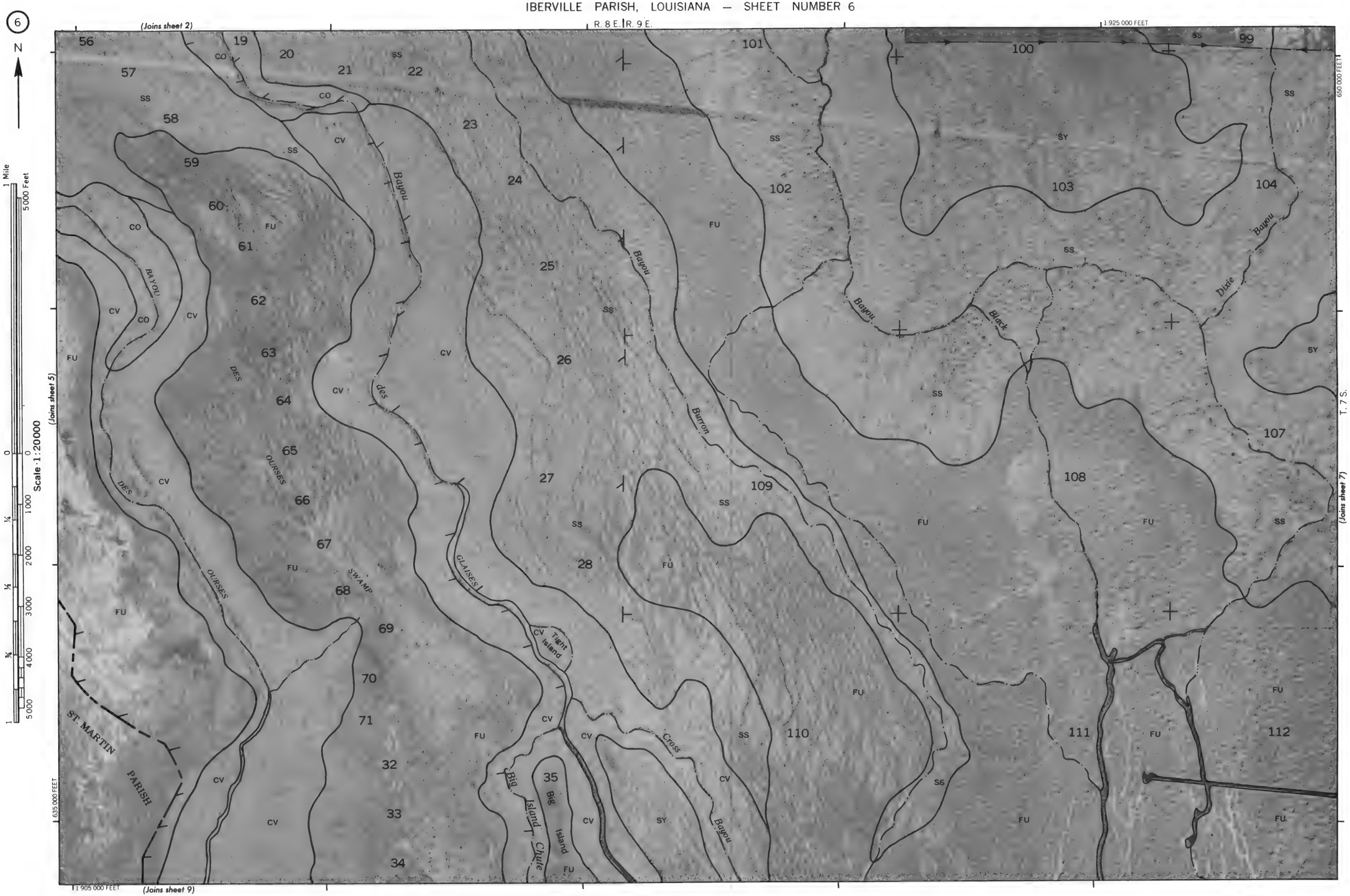


5

N

1 Mile
5 000 Feet
Scale 1:20000



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Coordinate grid ticks and land division corners, if shown, are approximately positioned

7

IBERVILLE PARISH, LOUISIANA NO. 7

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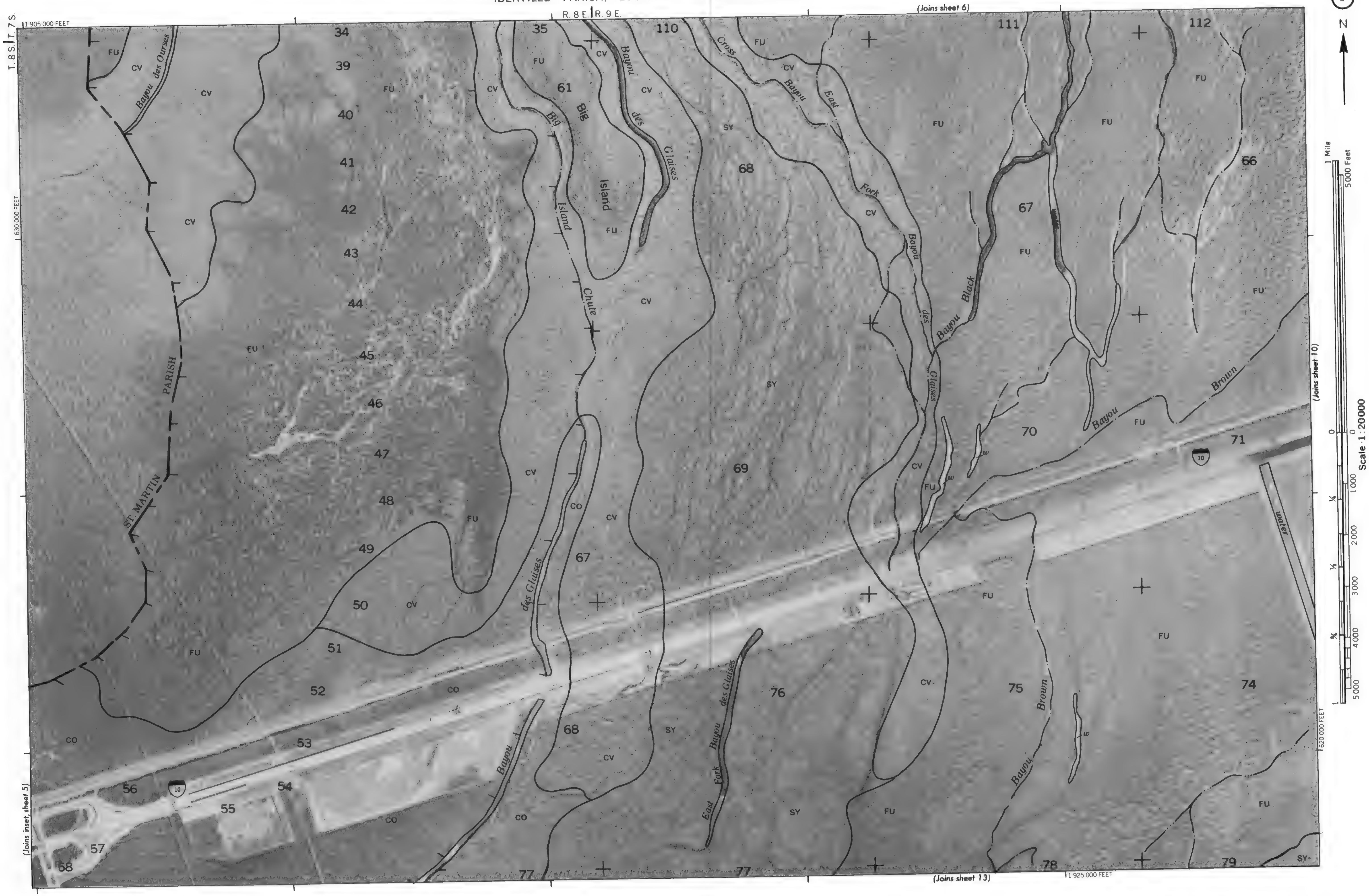
IBERVILLE PARISH, LOUISIANA NO. 8



IBERVILLE PARISH, LOUISIANA NO. 9

This map is compiled on 1971 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Coordinate grid ticks and land division corners, if shown, are approximately positioned.


10
N
1 Mile
5000 Feet
Scale 1:20000
(Joins sheet 7)
(Joins sheet 9)
(Joins sheet 11)
(Joins sheet 14)
R. 9 E. | R. 10 E.
T. 8 S. | T. 7 S.
1 950 000 FEET
1 930 000 FEET
630 000 FEET
620 000 FEET
Ramah
Bayou Maringouin
Bristow Bayou
Bayou Bogan
KING DITCH
water
3000
10
FU
SY
SS
Sc
Cc
Ce
Sa
Sk
This map is compiled on 1971 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.
IBERVILLE PARISH, LOUISIANA NO. 10

IBERVILLE PARISH, LOUISIANA NO. 11

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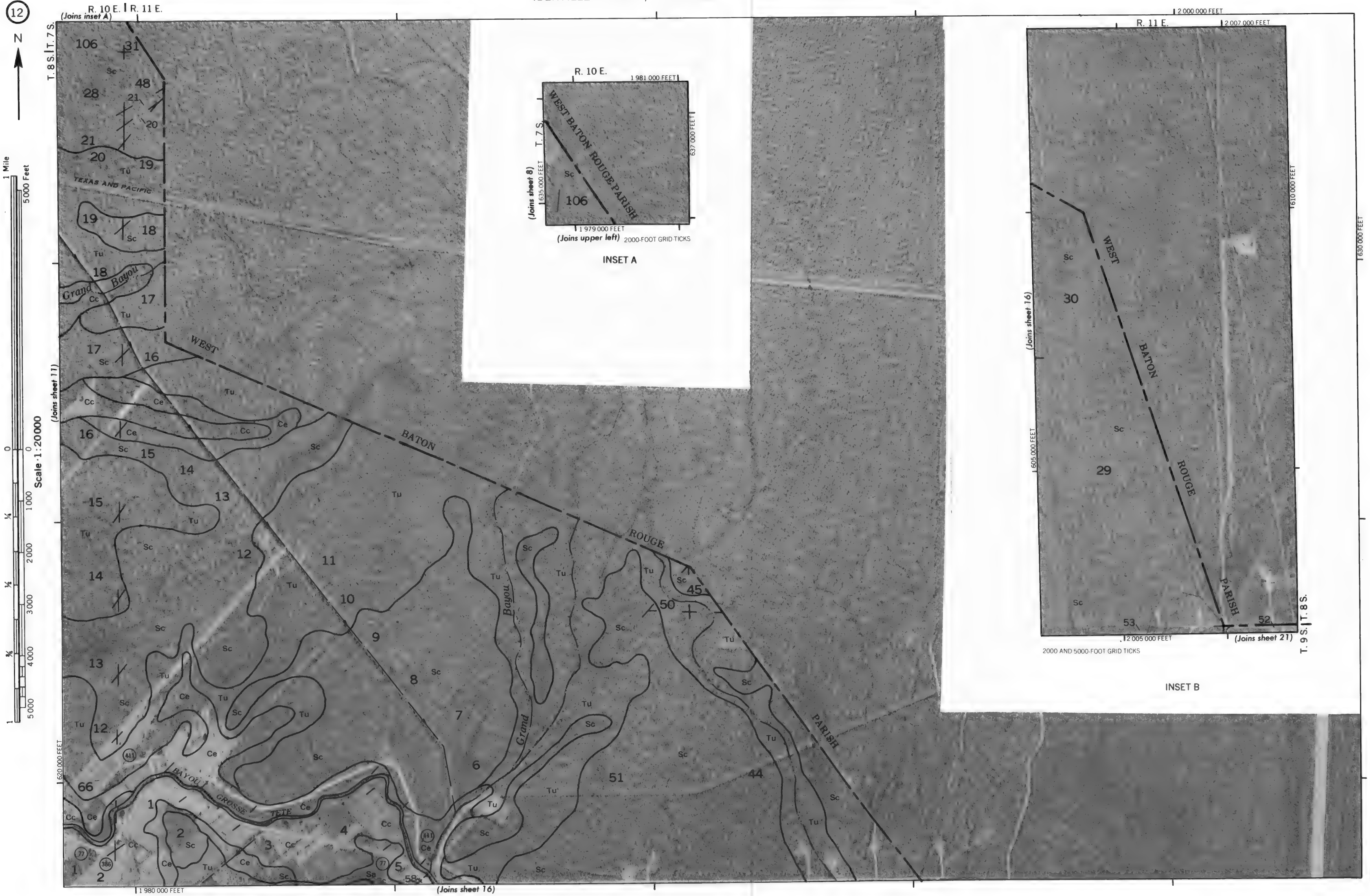

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IBERVILLE PARISH, LOUISIANA NO. 13

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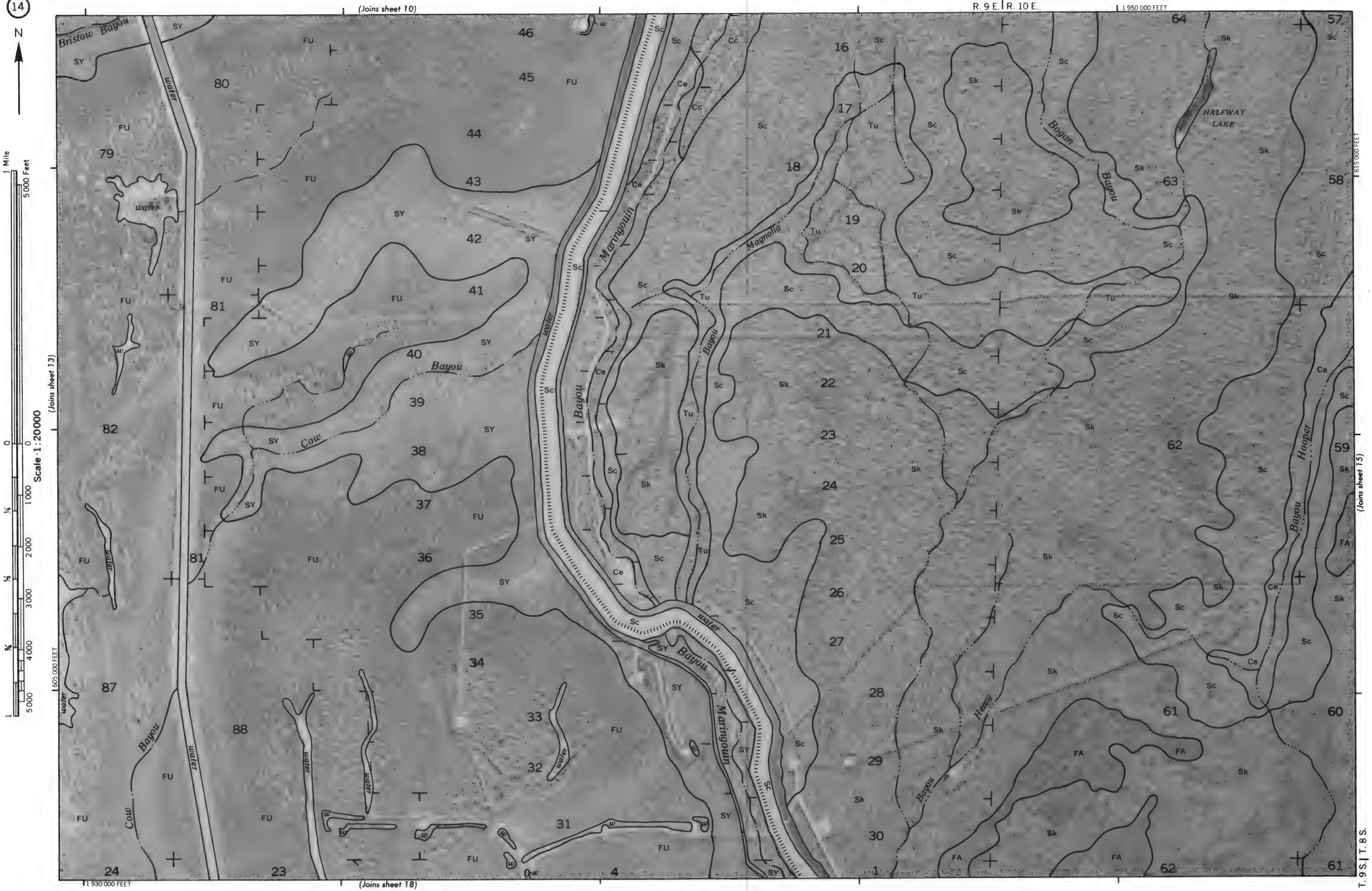

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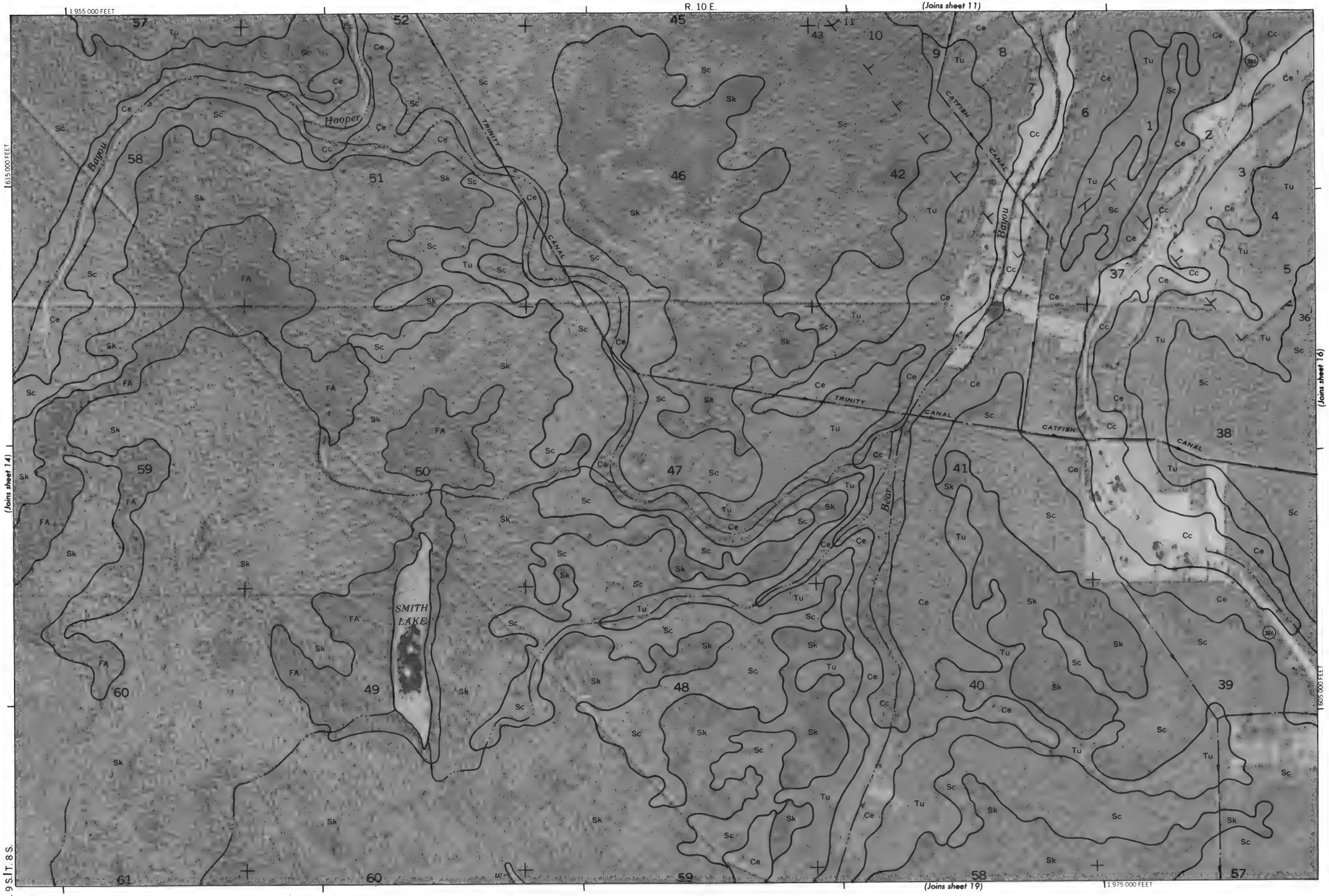
15



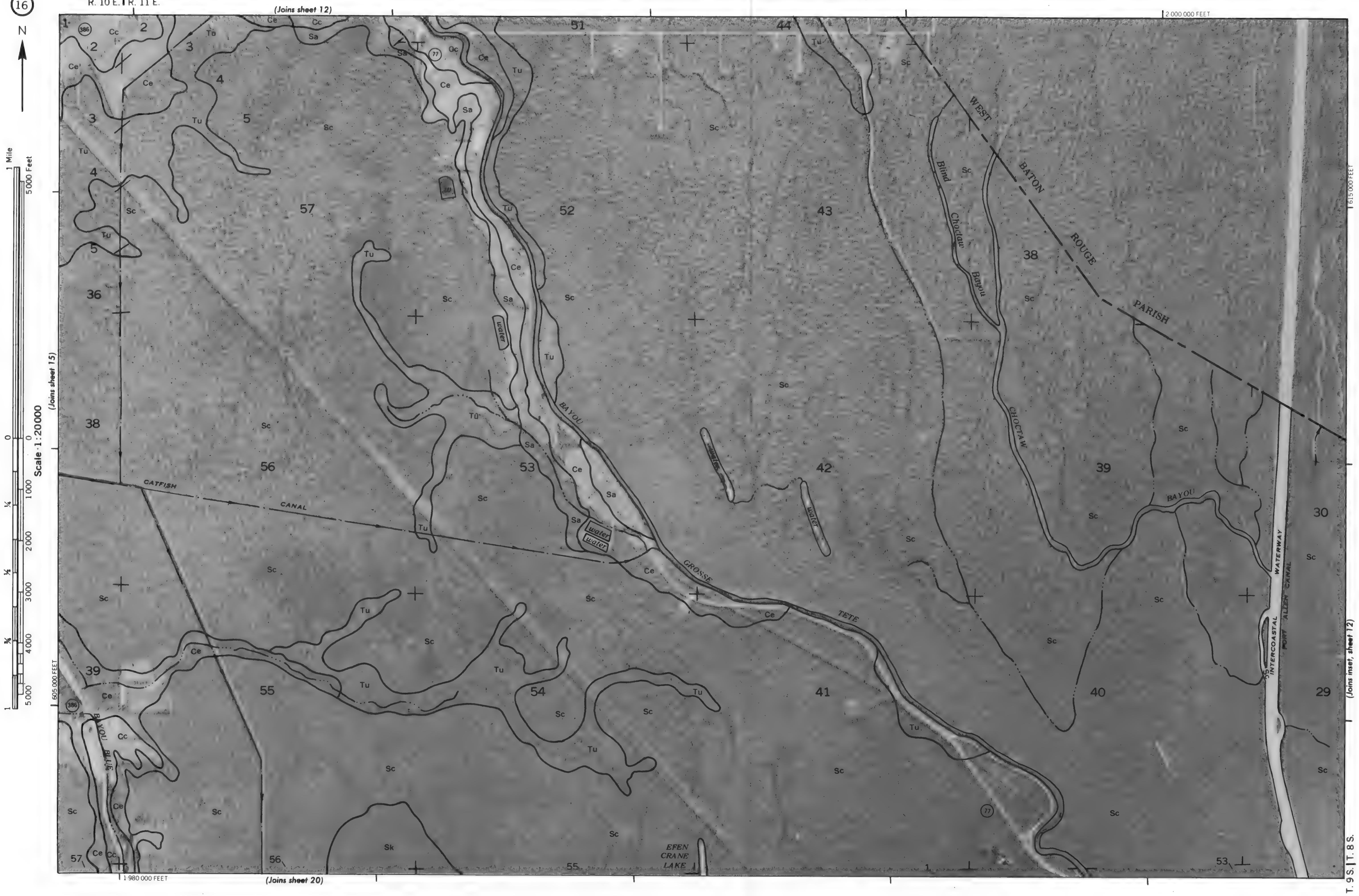
N

1 Mile
5000 Feet
0
0
¼
1000
2000
½
3000
¾
4000
1
5000

Scale 1:20000

IBERVILLE PARISH, LOUISIANA NO. 15

This map is compiled on 1971 aerial photography by the U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Coordinate grid ticks and land division corners, if shown, are approximately positioned



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IBERVILLE PARISH, LOUISIANA NO. 16

IBERVILLE PARISH, LOUISIANA NO. 17

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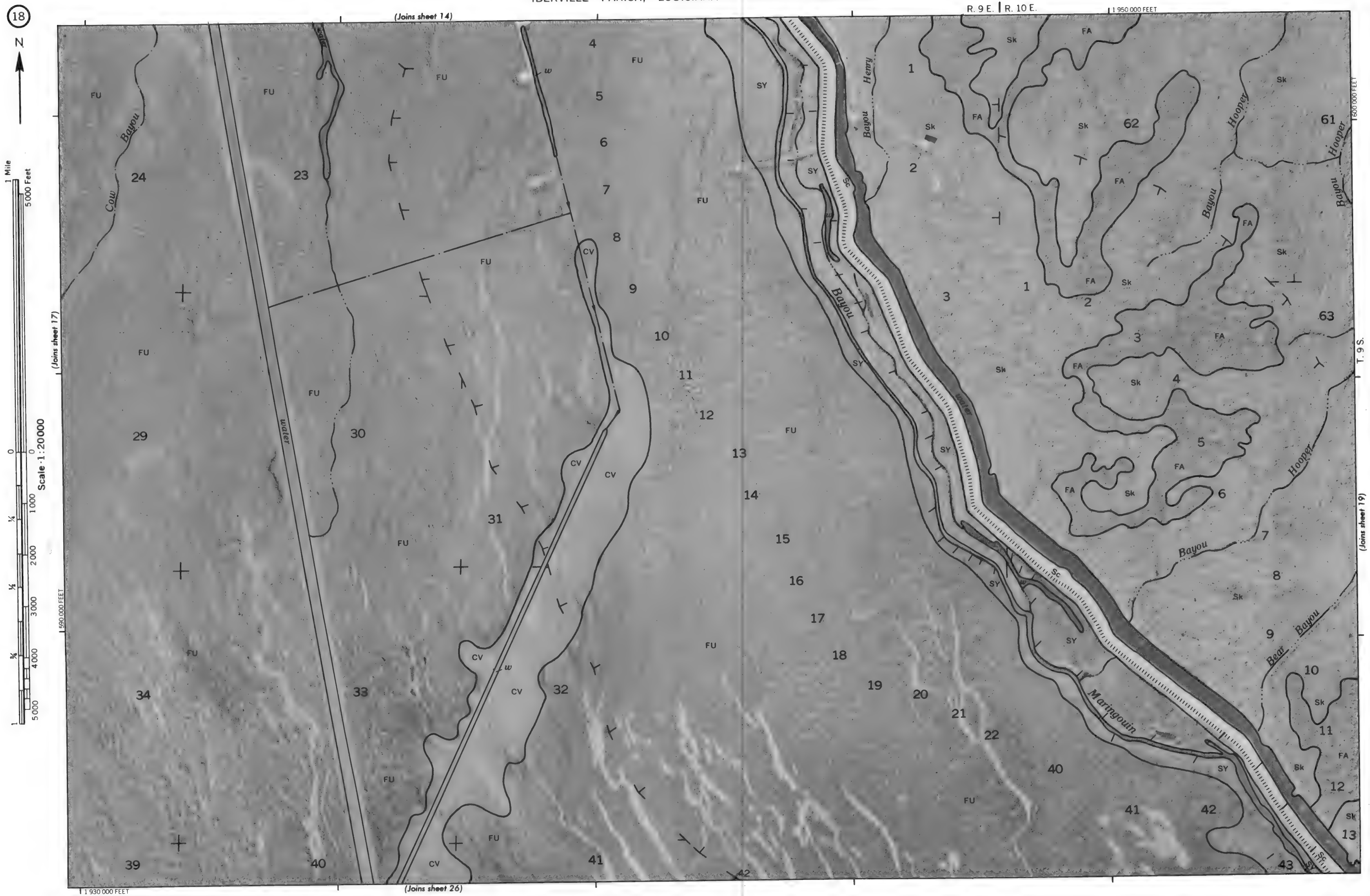

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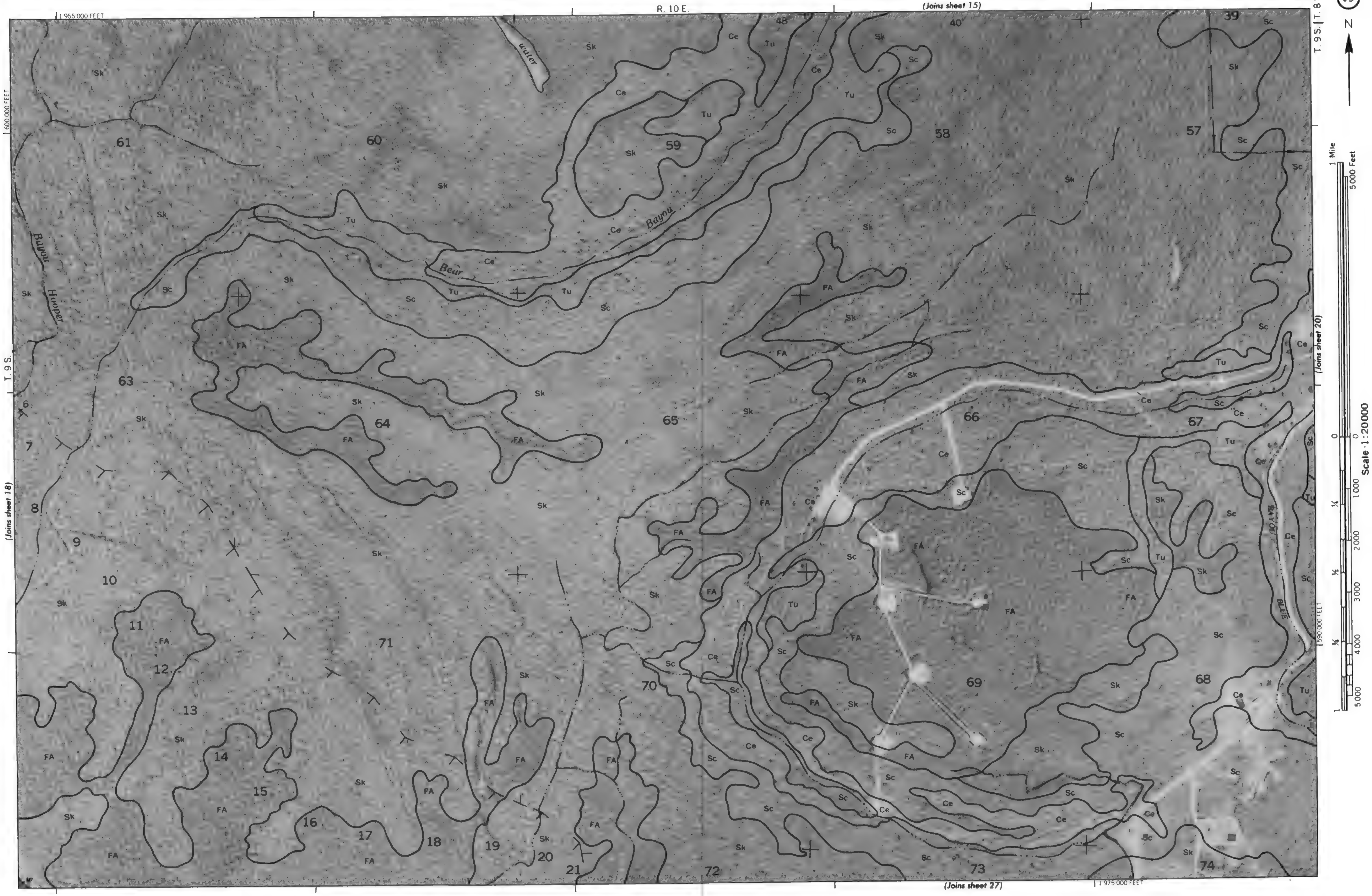

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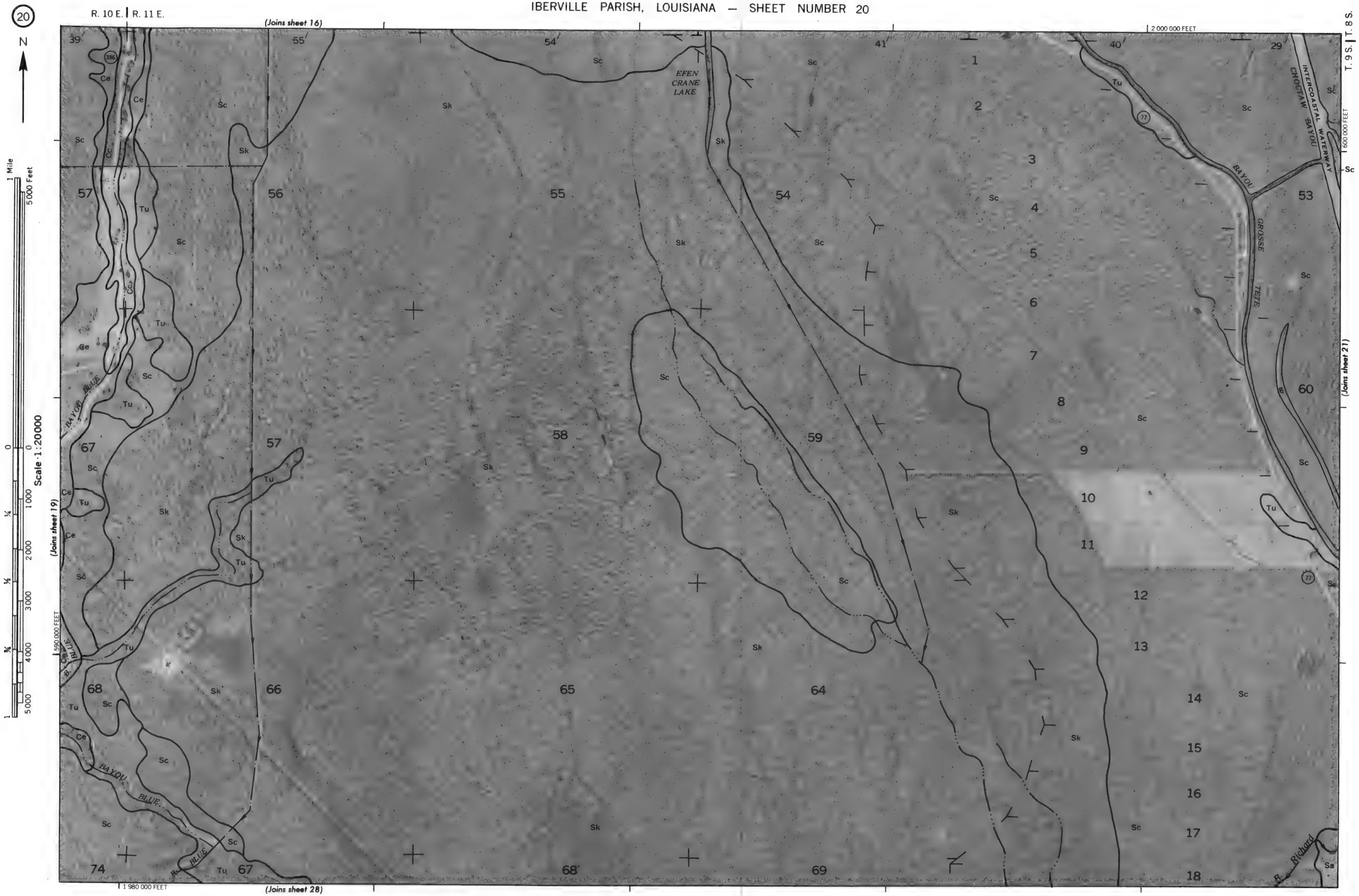

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IBERVILLE PARISH, LOUISIANA NO. 21

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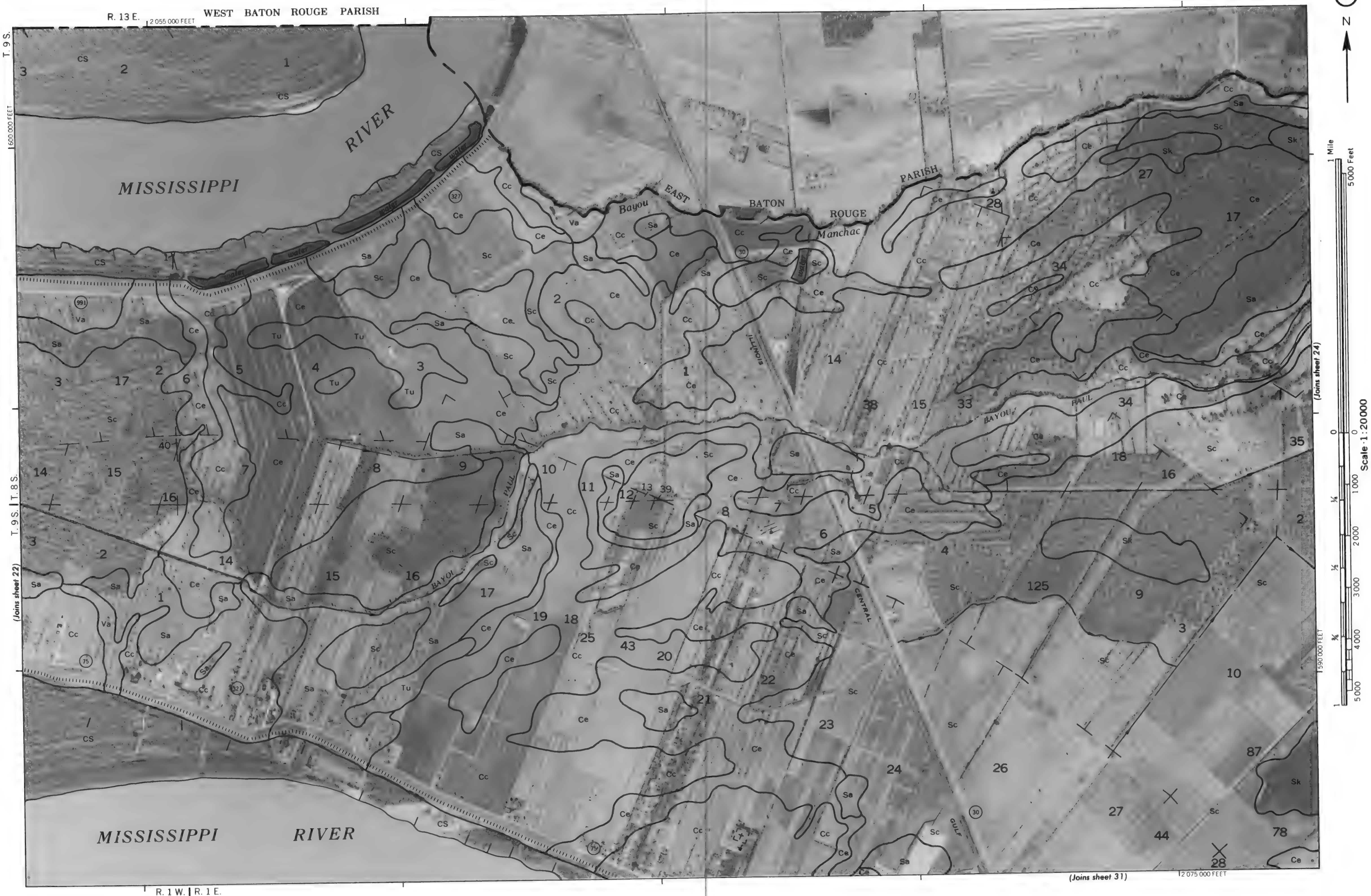
IBERVILLE PARISH, LOUISIANA — SHEET NUMBER 23



IBERVILLE PARISH, LOUISIANA NO. 23

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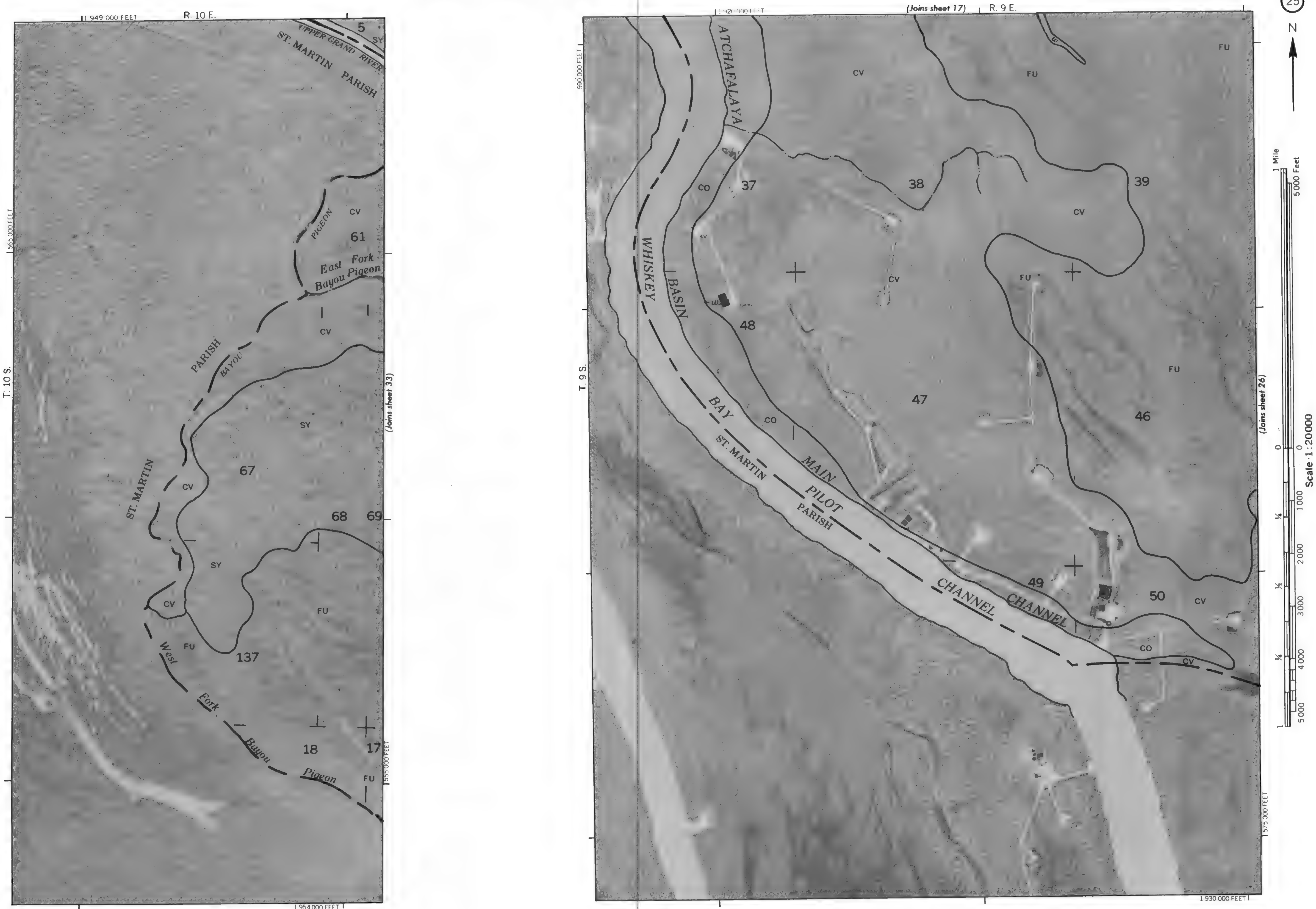

IBERVILLE PARISH, LOUISIANA NO. 25

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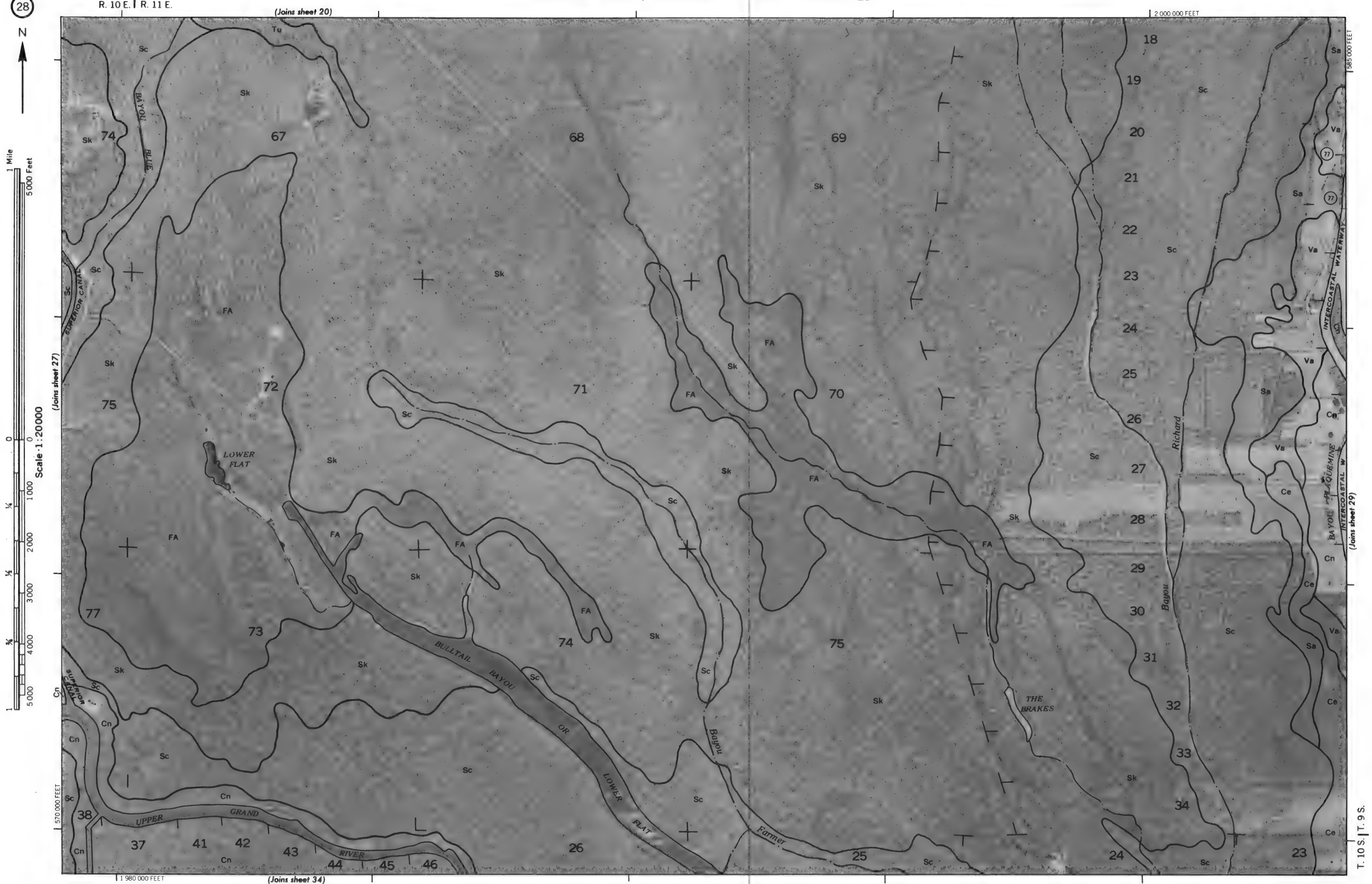
IBERVILLE PARISH, LOUISIANA NO. 27



This map is compiled on 1971 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

29

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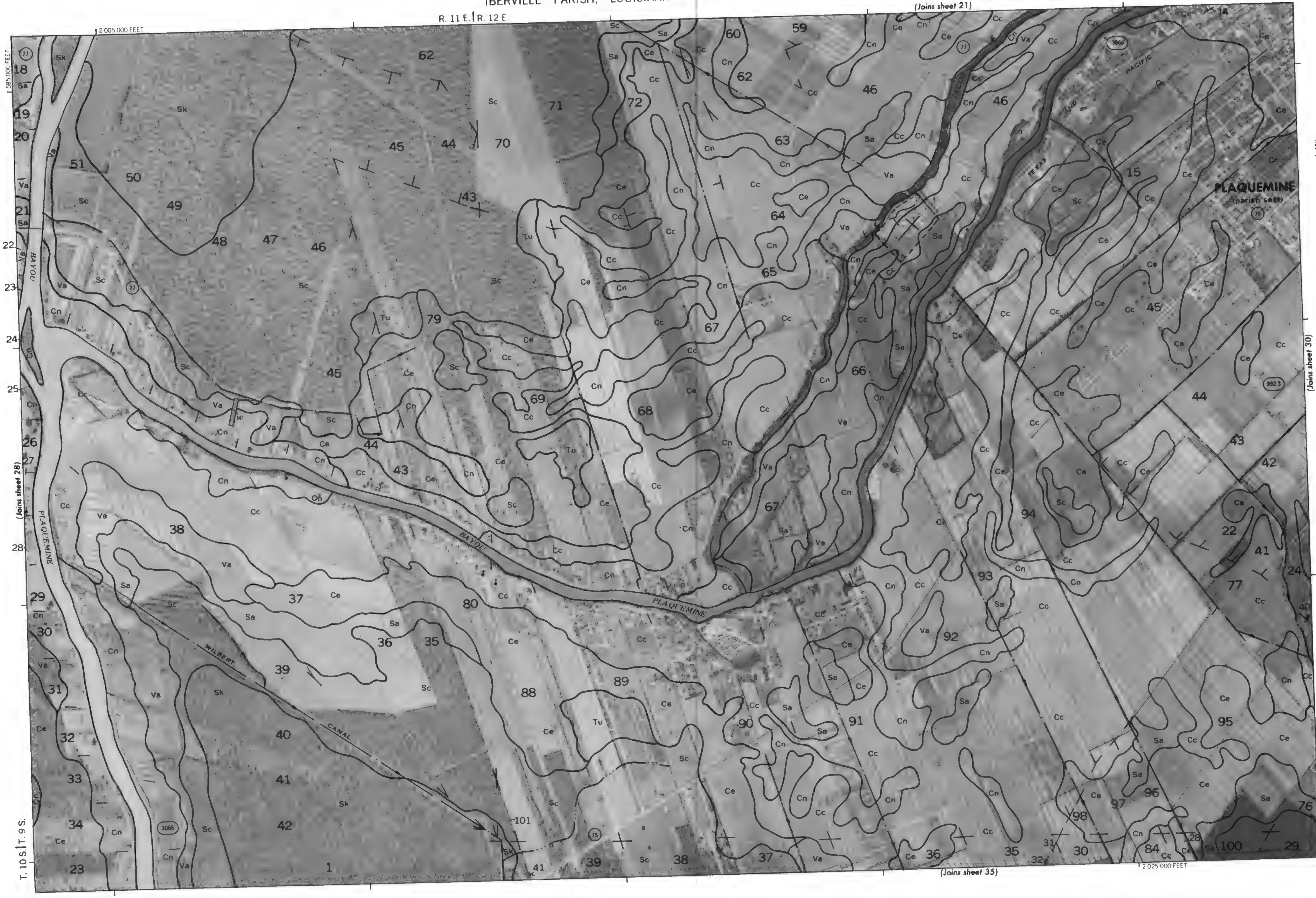

IBERVILLE PARISH, LOUISIANA NO. 29

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IBERVILLE PARISH, LOUISIANA NO. 31
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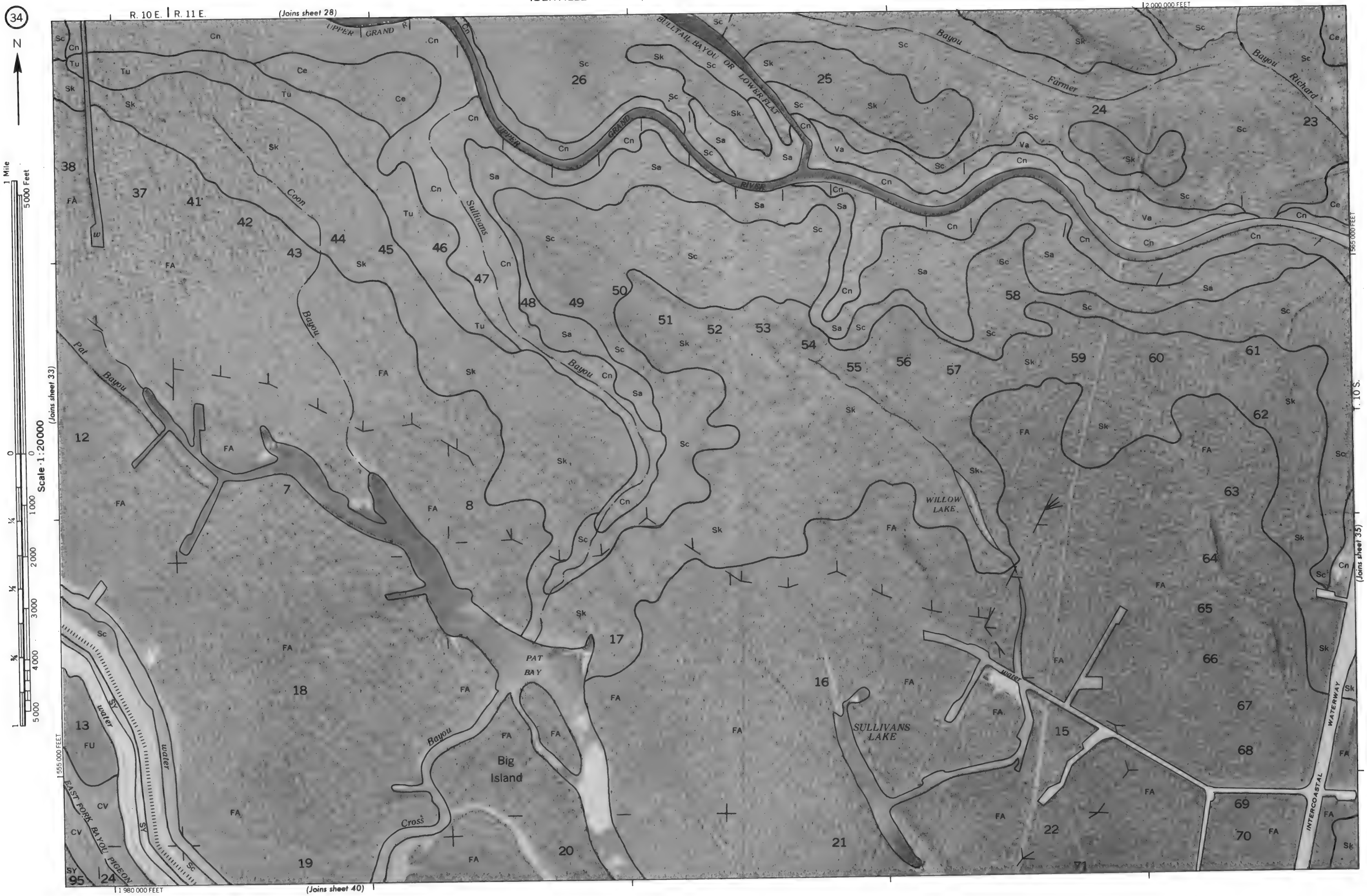
IBERVILLE PARISH, LOUISIANA NO. 32


33
(Joins sheet 27)
(Joins sheet 34)
(Joins sheet 39)
(Joins inset, sheet 25)
R. 10 E.
T. 10 S.
1 955 000 FEET
1 975 000 FEET
565 000 FEET
555 000 FEET
UPPER GRAND RIVER
EAST FORK BAYOU PIGEON
BAYOU PIGEON
WEST FORK BAYOU PIGEON
ST. MARTIN PARISH
BAY
Bayou Pół
water
N
1 Mile
5000 Feet
Scale 1:20000



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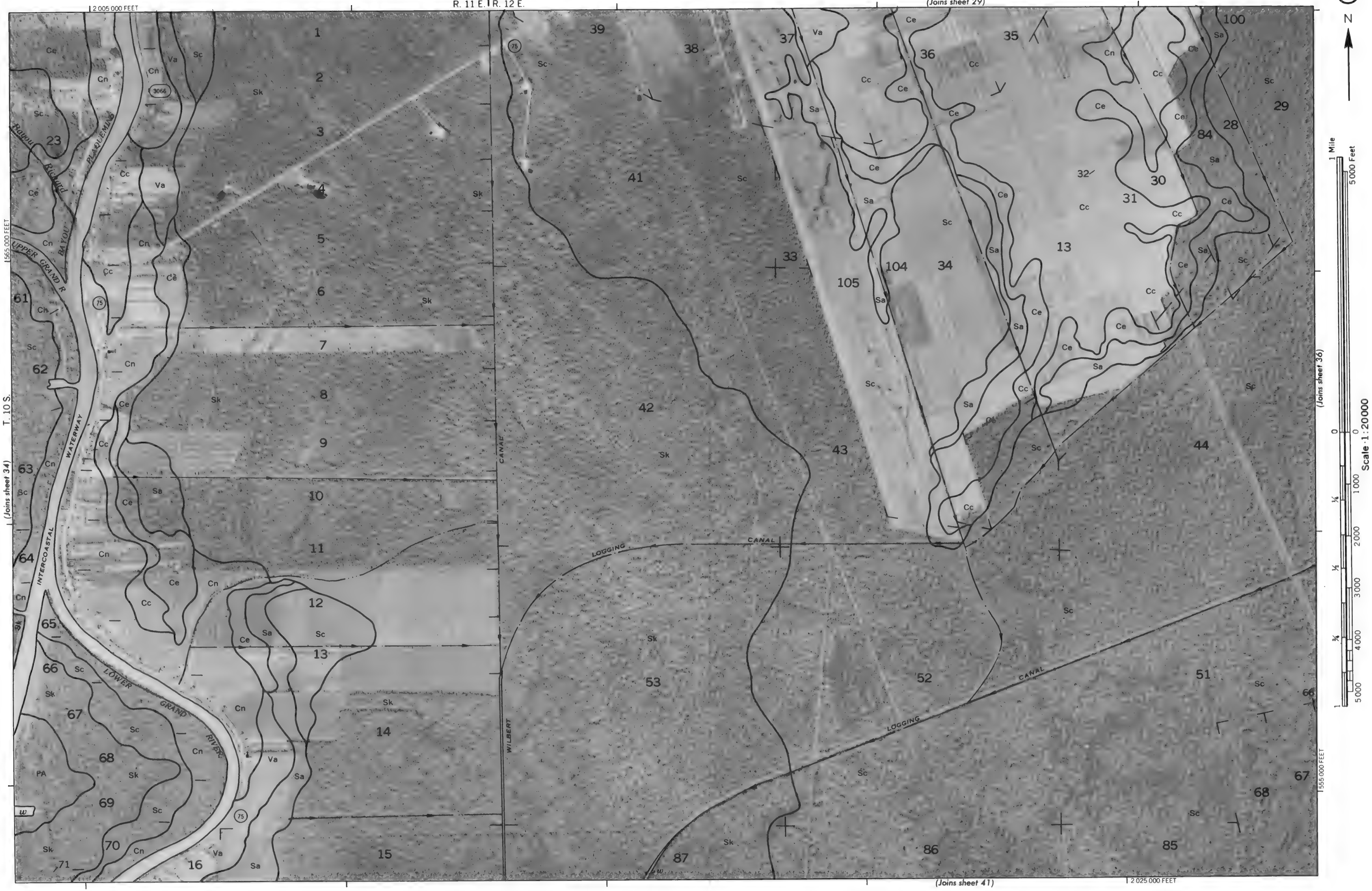

IBERVILLE PARISH, LOUISIANA NO. 35
This map is compiled on 1971 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned

IBERVILLE PARISH, LOUISIANA — SHEET NUMBER 36

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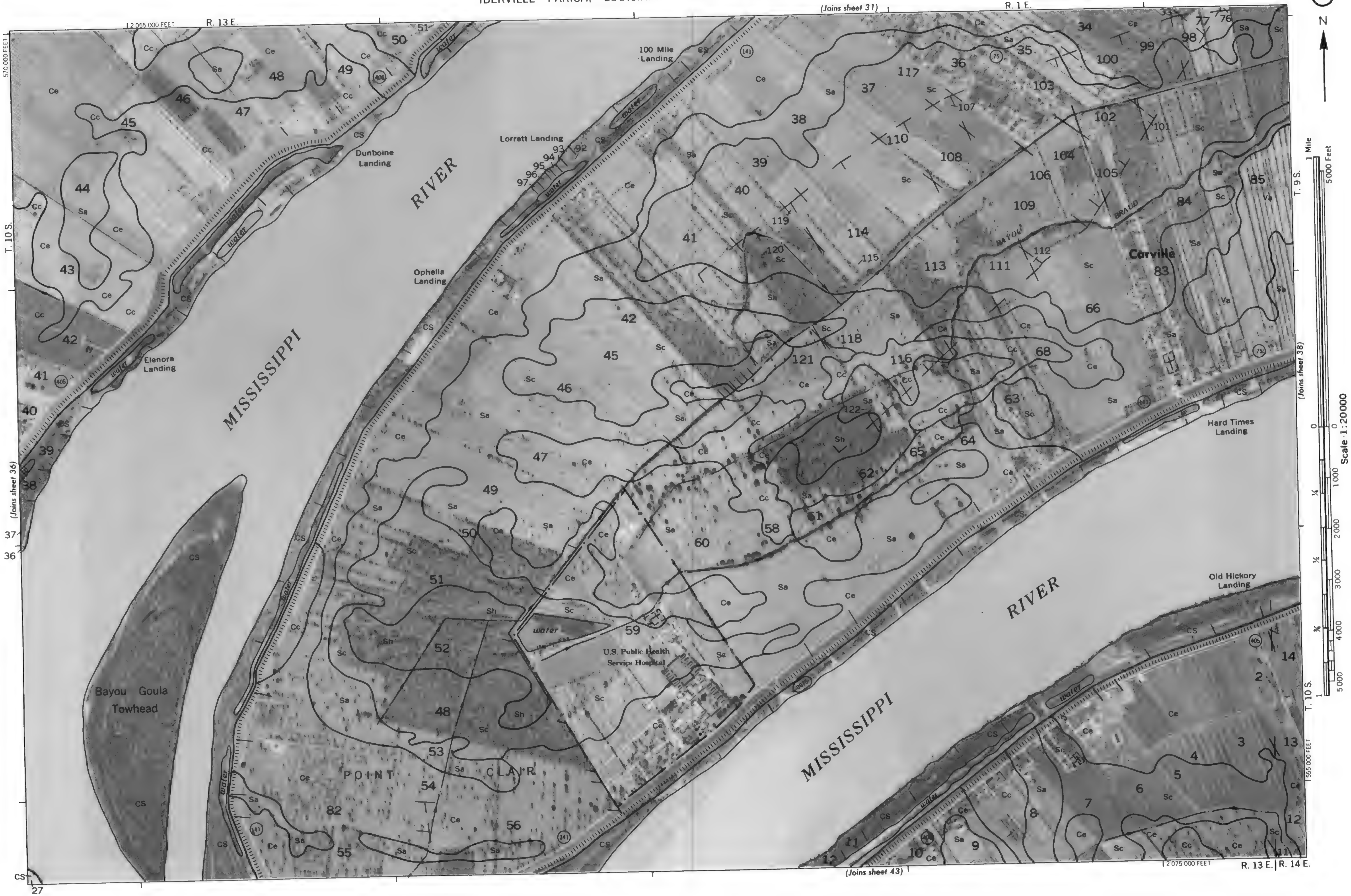
IBERVILLE PARISH, LOUISIANA NO. 36



IBERVILLE PARISH, LOUISIANA NO. 37
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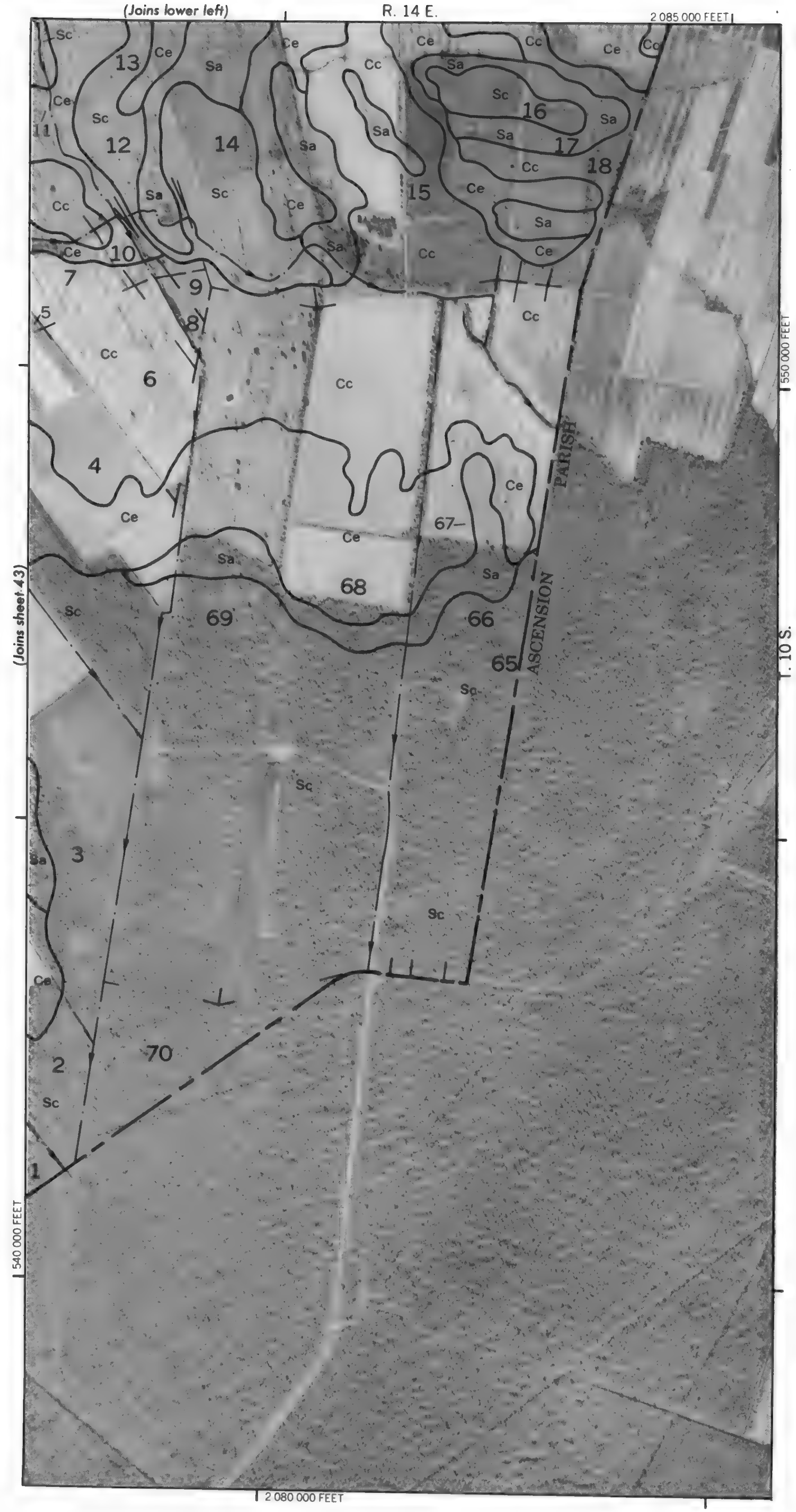

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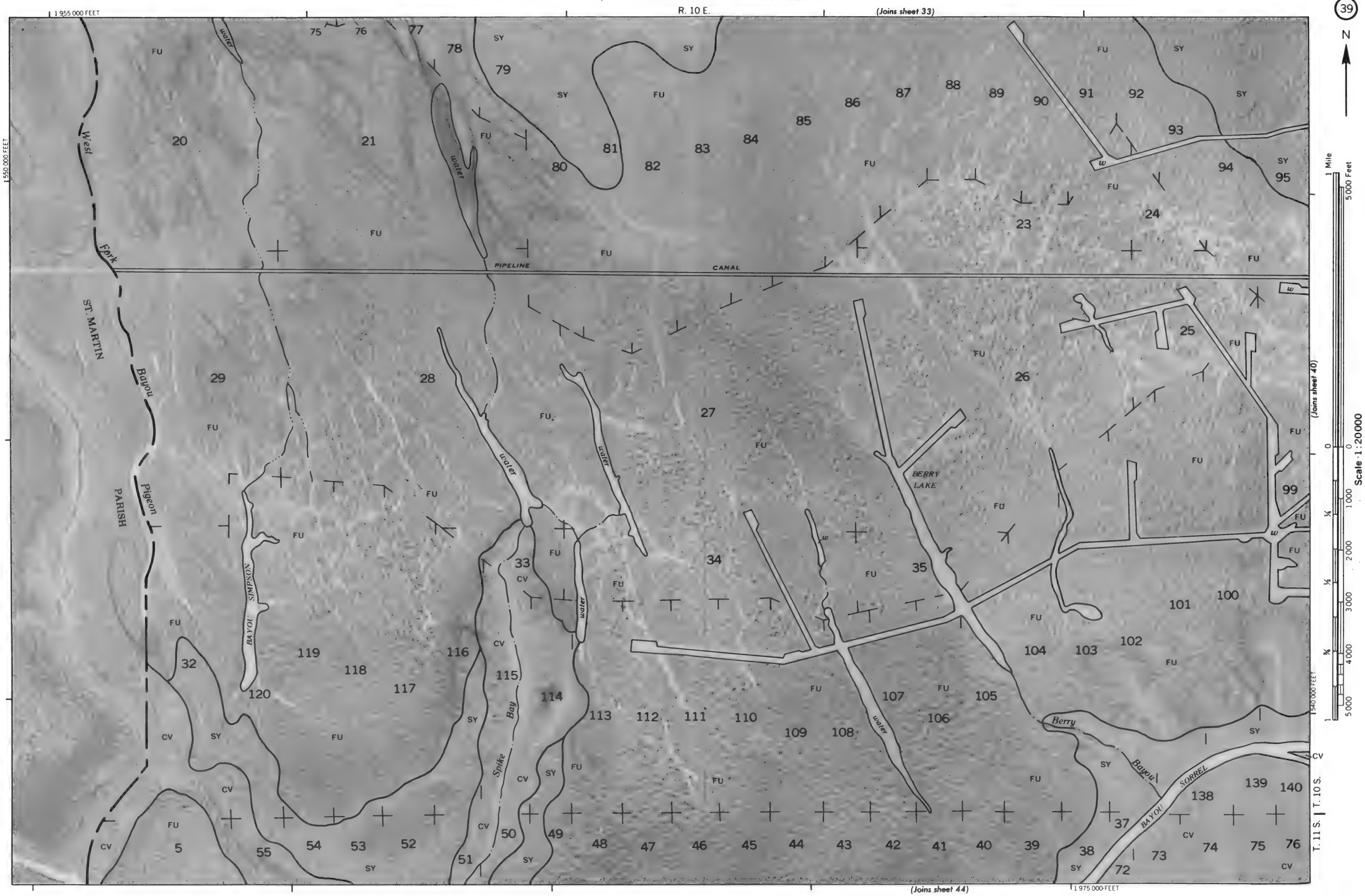

IBERVILLE PARISH, LOUISIANA NO. 39

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IBERVILLE PARISH, LOUISIANA NO. 41
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42

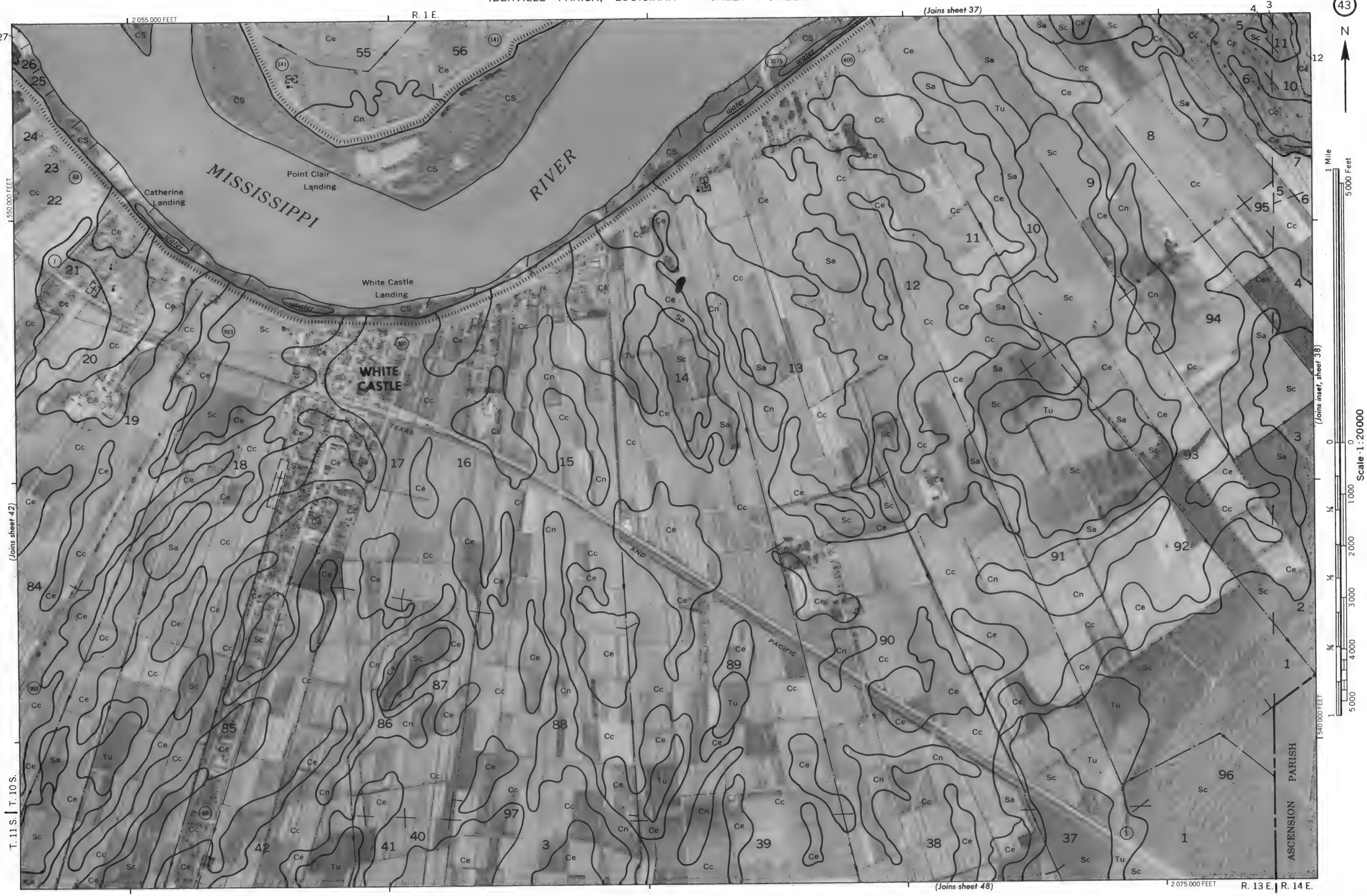
N

Scale 1:20000

1 Mile: 0, ¼, ½, ¾, 1

5000 Feet: 0, 1000, 2000, 3000, 4000, 5000

This map is compiled on 1971 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Coordinate grid ticks and land division corners, if shown, are approximately positioned



IBERVILLE PARISH, LOUISIANA NO. 43

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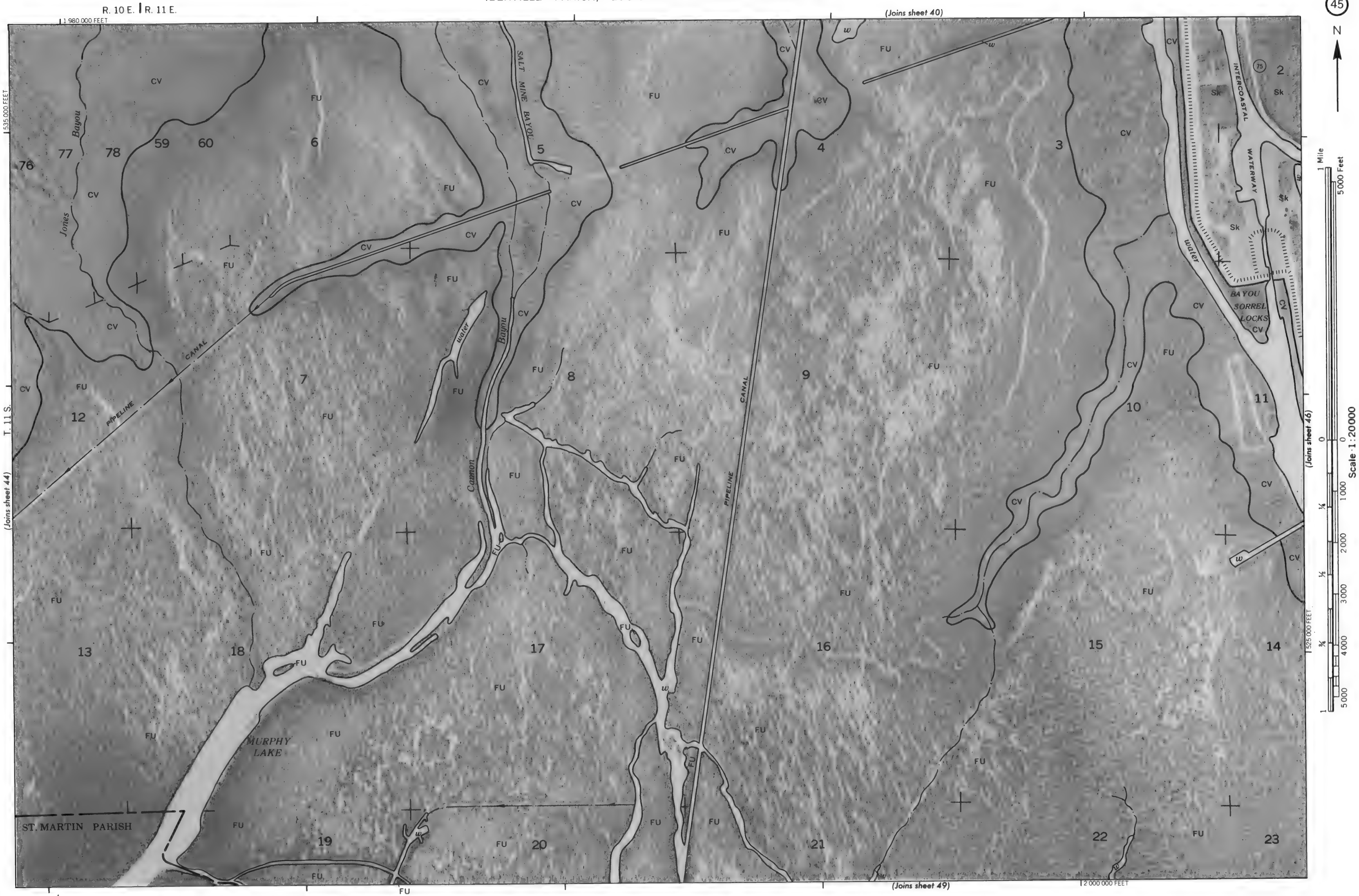
IBERVILLE PARISH, LOUISIANA NO. 44



IBERVILLE PARISH, LOUISIANA NO. 45

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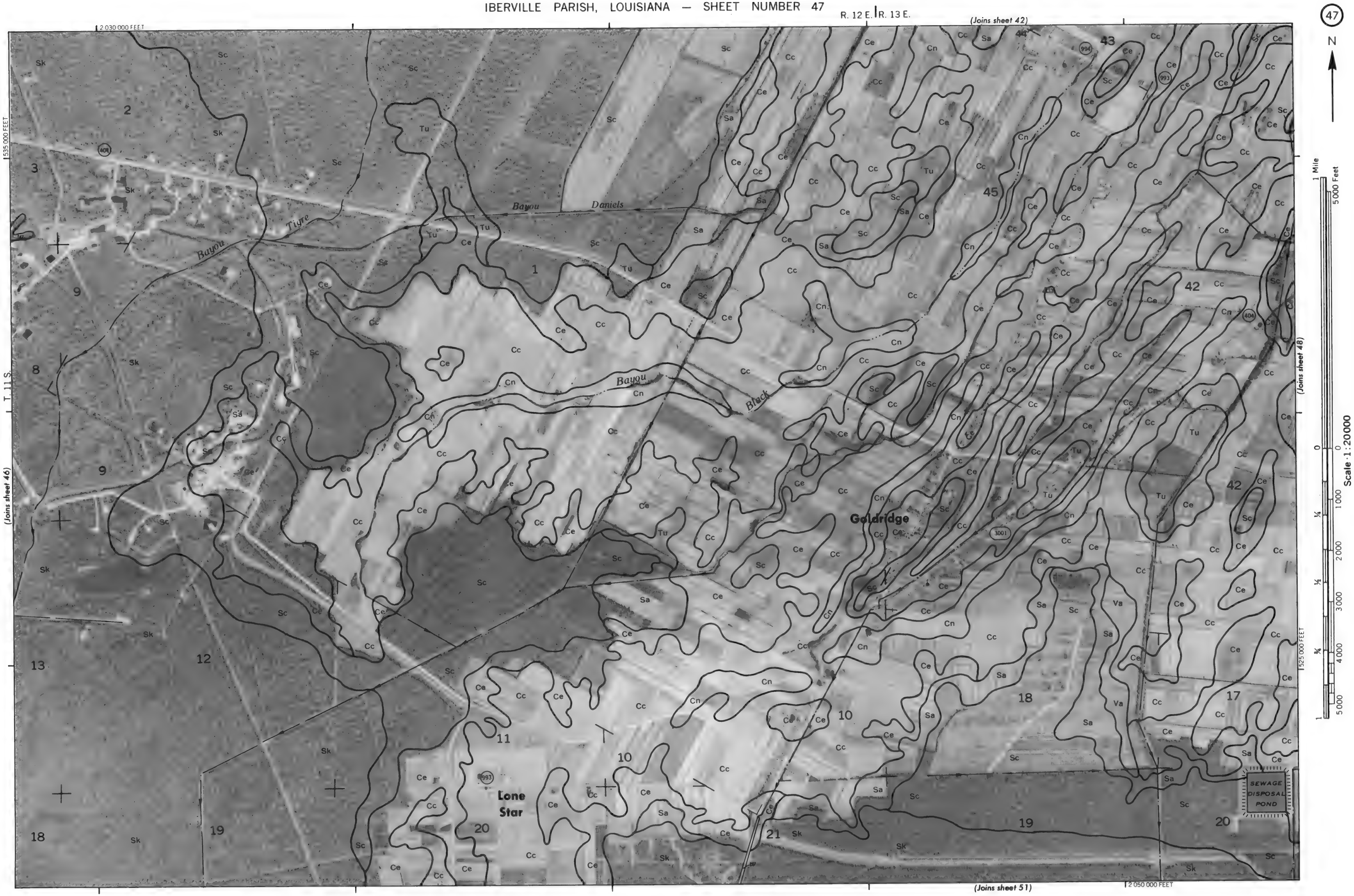

IBERVILLE PARISH, LOUISIANA NO. 47

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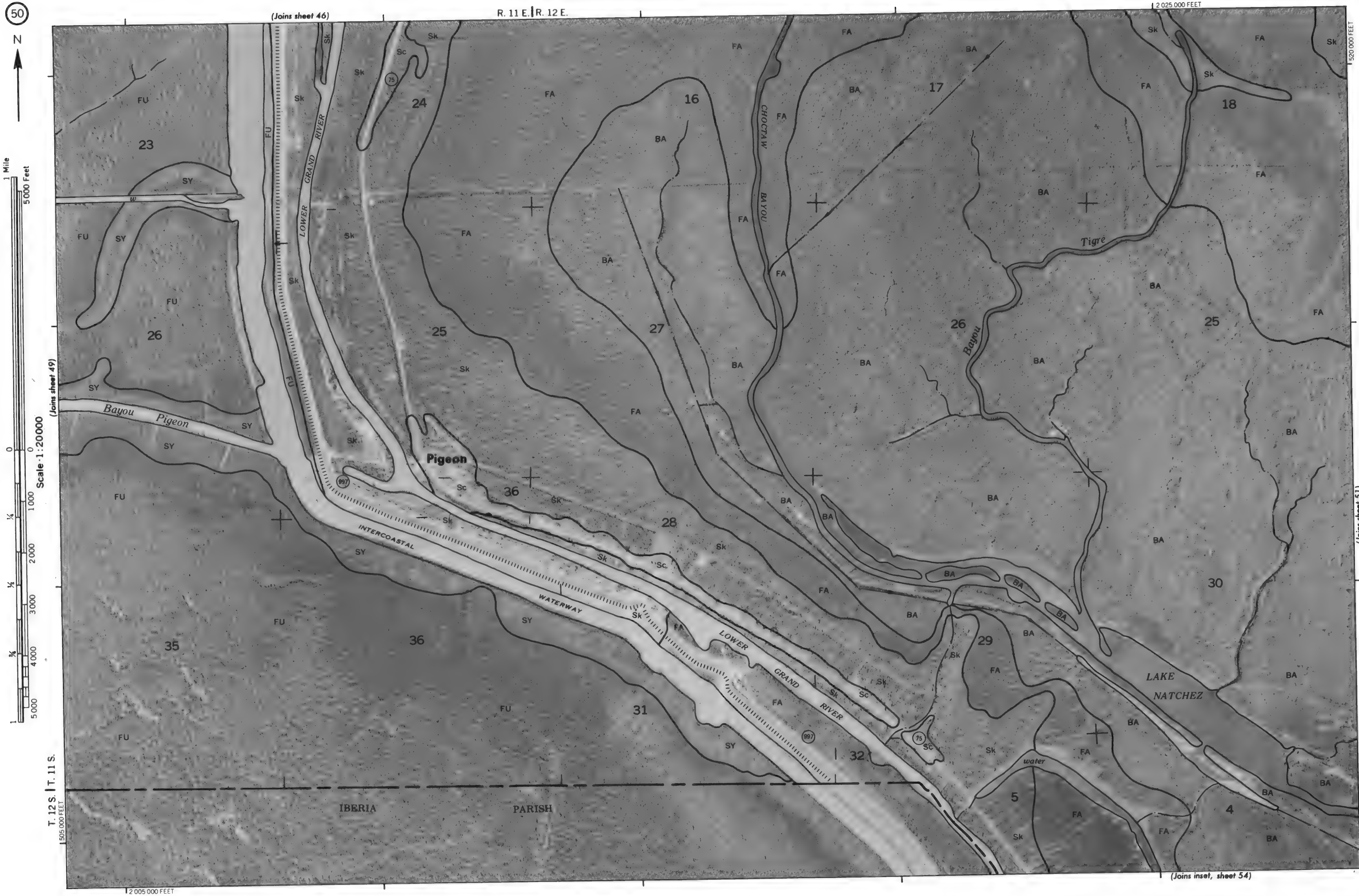
IBERVILLE PARISH, LOUISIANA NO. 48

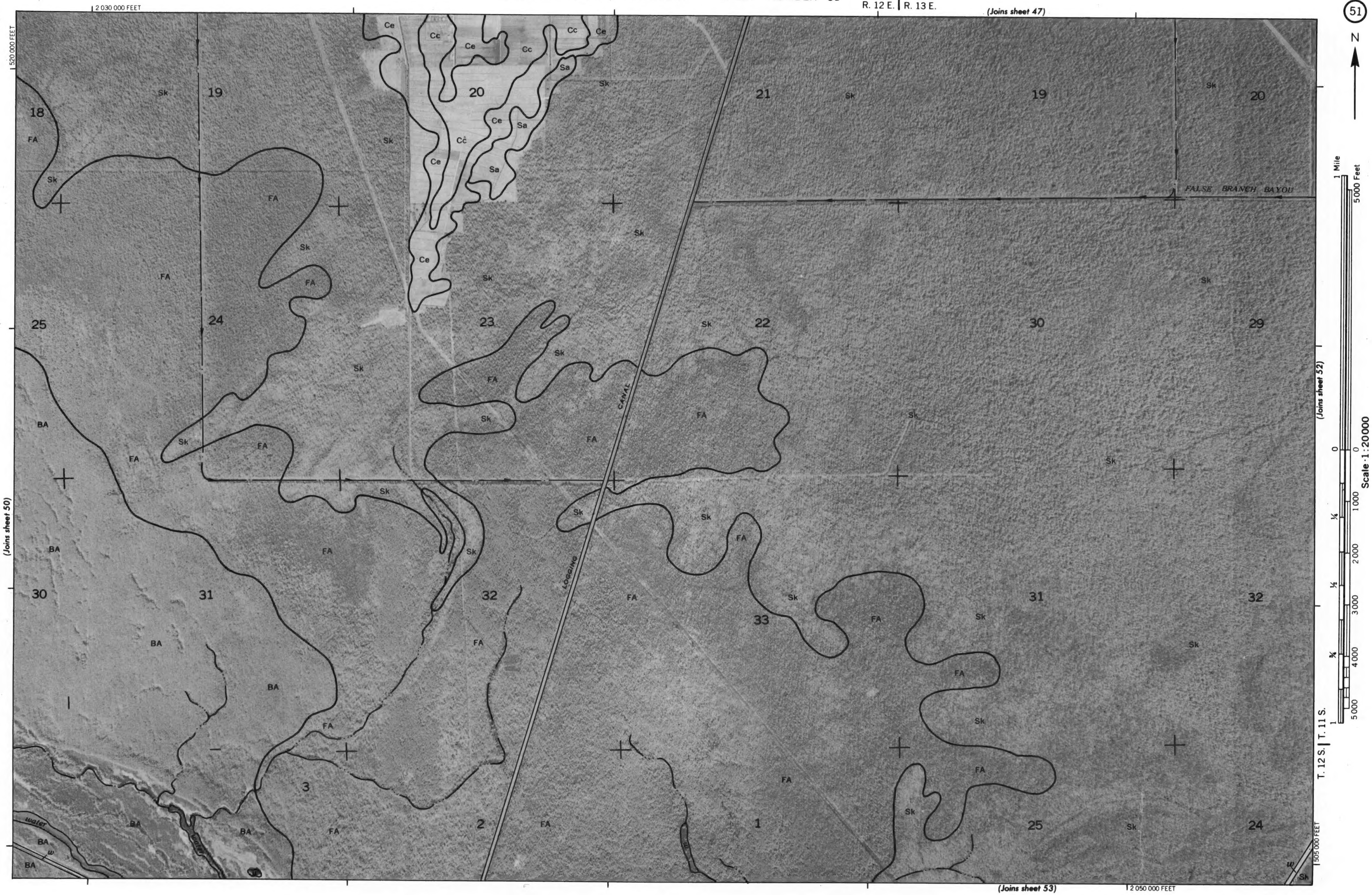
IBERVILLE PARISH, LOUISIANA NO. 49

This map is compiled on 1971 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



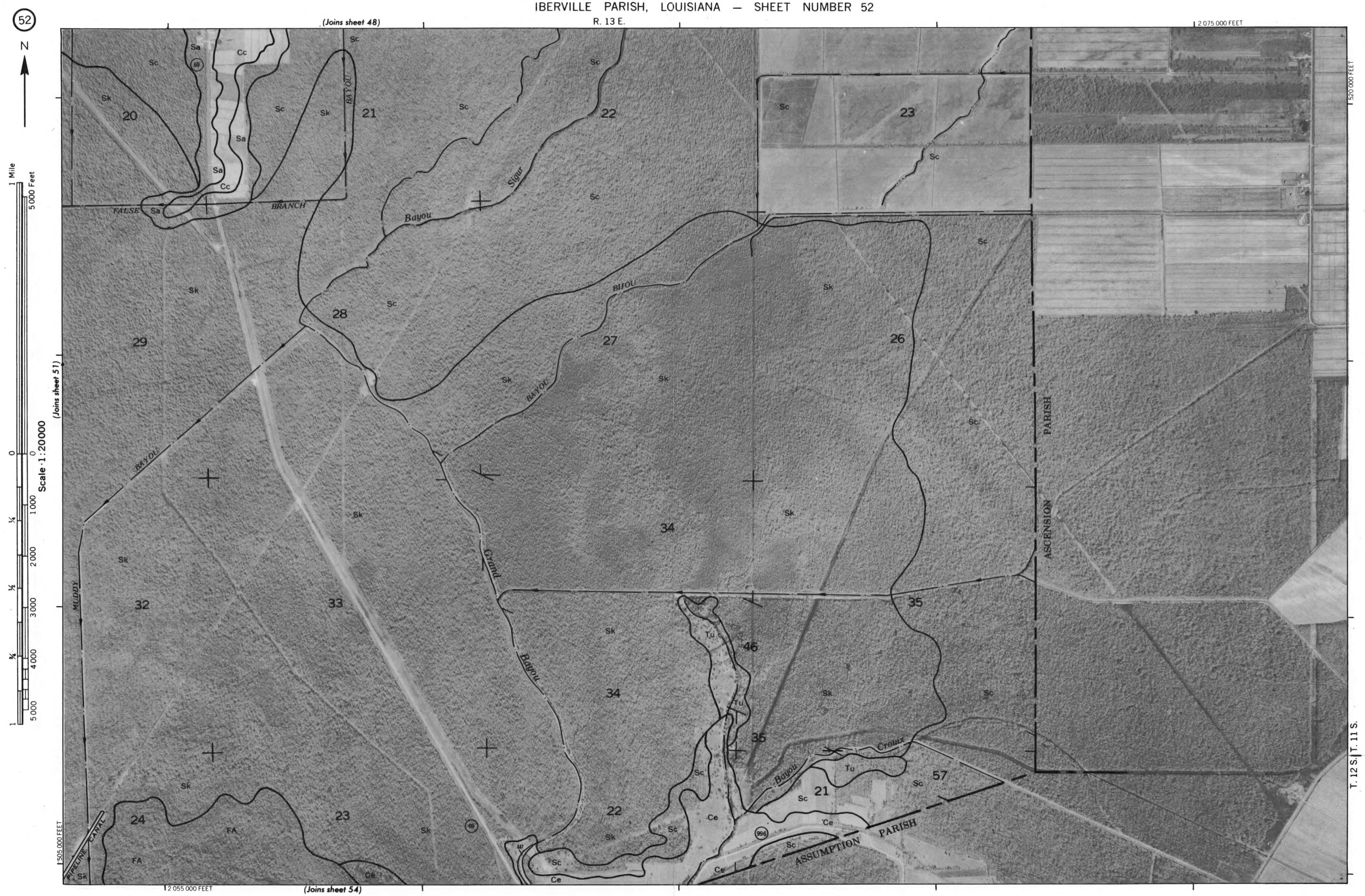
This map is compiled on 1977 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

IBERVILLE PARISH, LOUISIANA — SHEET NUMBER 51



IBERVILLE PARISH, LOUISIANA NO. 51

This map is compiled on 1971 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.



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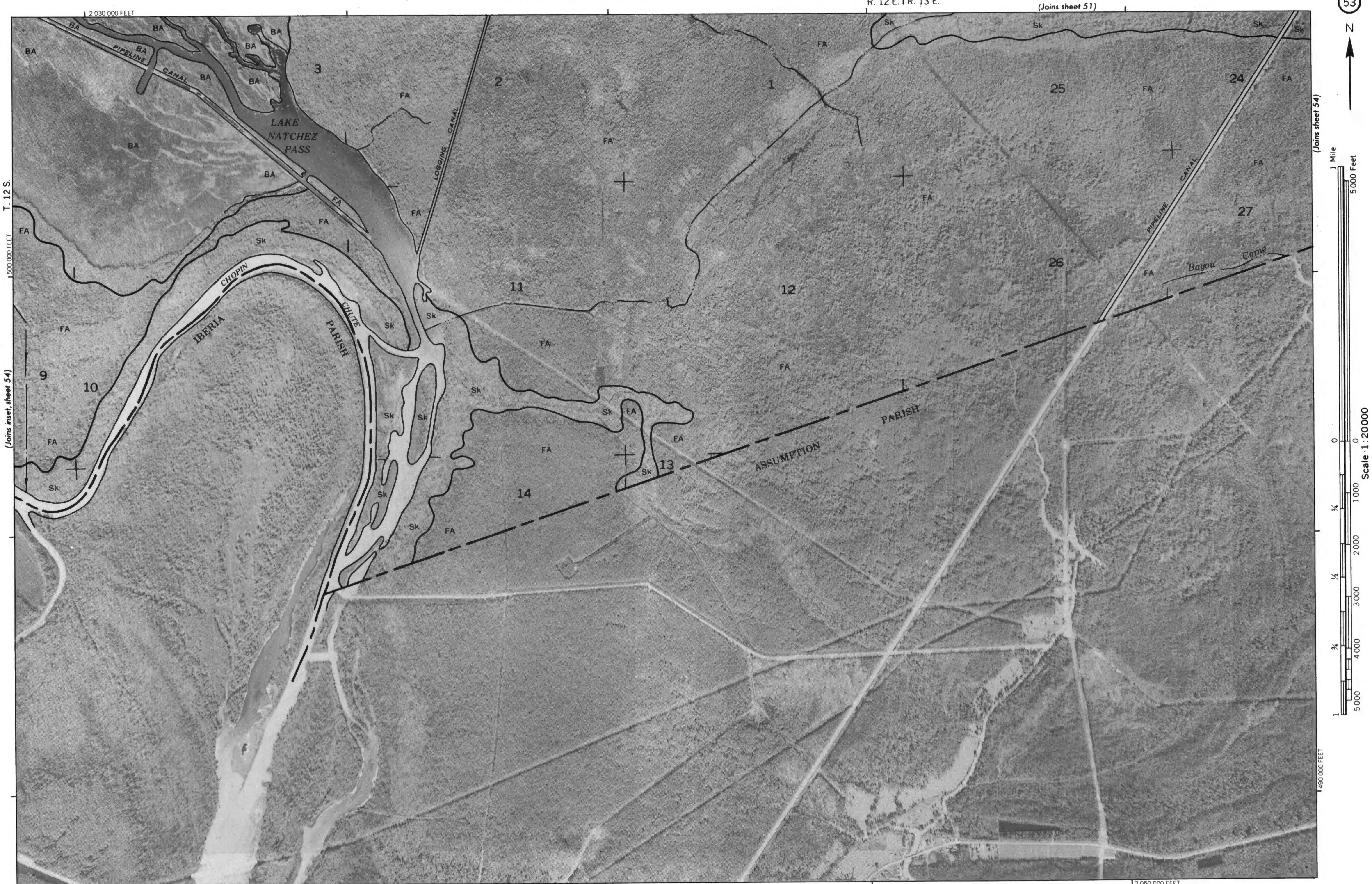

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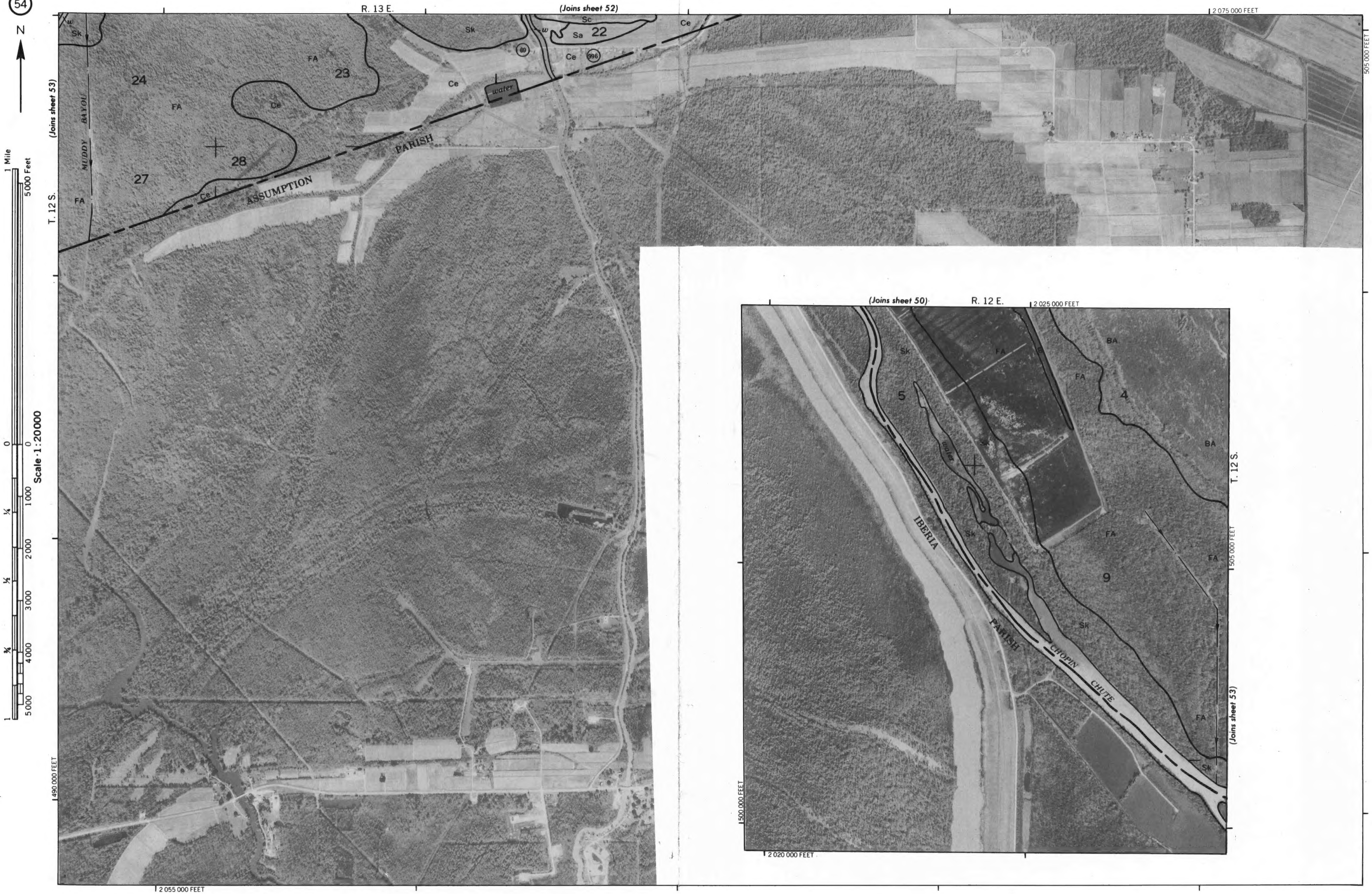

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